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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
✓ Forage and Range Research Branch

1960 and 1961
02 Report of Alfalfa Nurseries
Eastern Alfalfa Improvement Conference

Conducted cooperatively with the various
State Agricultural Experiment Stations
and
The United States Department of Agriculture,
Agricultural Research Service, Forage and Range
Research Branch, in Eastern United States

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Summarized by: C. C. Lowe

1960 and 1961
REPORT OF ALFALFA NURSERIES
EASTERN ALFALFA IMPROVEMENT CONFERENCE

Report compiled by C. H. Hanson, Research Agronomist,
Forage and Range Research Branch, Crops Research Division,
Agricultural Research Service, U.S. Department of Agriculture.

INTRODUCTION

This is the fifth Alfalfa Nurseries Report assembled by the Eastern Alfalfa Improvement Conference. The report covers a 2-year period and consists primarily of data on alfalfa varieties and breeding material. This is a progress report which contains findings that may or may not be verified in subsequent experiments. Therefore, data reported and statements contained herein do not constitute publication. For this reason, citation to any part of this Report should not be made without prior permission from the agency(s) or worker(s) concerned.

ALABAMA - Tallassee

Table 1.--Forage yields of alfalfa varieties at the Plant Breeding Unit, 1960.

Variety	Origin	Pounds of oven dry forage per acre			
		April 26	June 8	Aug. 5	Total
1. Syn F(56)1	North Carolina	3745	1810	837	6392
2. Socheville (P.I. 247,752)	France	3053	1767	920	5740
3. Syn B(51)7	North Carolina	2871	1480	796	5146
4. Italian (F.C. 24855)	Italy	2550	1582	906	5038
5. Tourneur 505 (P.I. 256,004)	France	2650	1522	808	4980
6. Alfa (Scandia)	Sweden	2664	1506	683	4854
7. Kansas Common	Kansas	2650	1458	733	4842
8. Syn F(56)2	North Carolina	2481	1510	754	4745
9. Du Puits	France	2487	1545	712	4744
10. Vernal	Wisconsin	2641	1360	720	4722
11. Zia	New Mexico	2443	1545	694	4682
12. Williamsburg	Virginia	2340	1426	774	4539
13. Cody	Wyoming	2234	1420	822	4476
14. Caliverde	California	2428	1280	681	4390
15. Buffalo	Kansas	2227	1328	688	4244
16. Lahontan	Nevada	2086	1222	532	3839
C.V. %		21.3			15.2
L.S.D. 5%		786			1049
1%		1050			1401

Date Planted: Sept. 23, 1959. Stands of all varieties badly depleted by fall of 1960, cause unknown.

Soil: Cahaba sandy loam.

Fertilizer: 3 tons lime, 1000 lbs. 0-12-20, and 25 lbs. borax per acre at planting.

ARKANSAS

ALFALFA VARIETY YIELD TRIALS - 1960

Total rainfall for the 6-month period, April 1 to October 1, was near or slightly above the long time average in all areas of the state except the Southwest, where rainfall was between 4 and 5 inches below the average for that area. In all areas of the state, however, the rainfall was extremely erratic. One or more drought periods of four to six weeks were recorded sometime during the summer in all areas of the state.

Temperatures during February and March were well below the long time average in all areas of the state. As a result, spring growth of alfalfa was delayed. In the Northern part of Arkansas freezing temperatures during the first week of May suppressed growth still further.

Several of the leaf diseases were observed in 1960, but only two, common leaf spot (Pseudopeziza medicaginis) and Stemphylium leaf spot (Stemphylium botryosum), appeared to be of economic importance.

Pea aphids damaged the first cutting of alfalfa in most areas of the state where control measures were not taken. The three-cornered alfalfa hopper reduced yields late in the season in localized areas.

The 1960 varietal recommendations for Arkansas are as follows:

Buffalo and Ranger, in that order, are recommended for the entire state.

Vernal is recommended for the upland soils of Northern and Western Arkansas.

Lahontan is recommended for the heavy clay delta soils.

Table 2.--- Alfalfa Variety Yield Test - 1960

Location: Block 37, Agronomy Farm, Fayetteville, Arkansas
 Design: Randomized block; 4 replications.

Established: September 20, 1956 on Waynesboro silt loam

Soil Treatment: 40-80-80 fertilizer and 2 ton lime per acre at time of seeding. Topdressed with 25-50-100 fertilizer per acre on February 28, 1957, 0-30-60 fertilizer per acre on March 21, 1958, 0-60-30 fertilizer per acre on February 27, 1959, and 0-50-100 fertilizer and 20 pounds of boron per acre on March 23, 1960.

Plot Size: 5 feet by 20 feet

Seeding Rate: 20 pounds of live, pure seed per acre.

Harvested: 5 times (May 18, June 14, July 14, August 19 and October 21, 1960)

Variety	Hay yield in tons per acre (12% moisture)										Percent		Recovery	
	1st cut					2nd cut					Leaves 2/ 4yr.av. Stand		Spring Fall vigor vigor	
	1st	2nd	3rd	4th	5th	Total	1/ 57-60	2/ 57-60	3/ 57-60	4/ 57-60	5/ 57-60	3/ 4/	4/ 5/	
Du Puits F.C.24697	1.41	1.06	.70	.76	.26	4.19	3.81	86	50.1	51.4	3.3	4.8	4.0	
Canadian S.C. Ma. 531	.64	.50	.23	.60	.16	2.13	2.60	41	52.1	56.2	8.0	8.0	8.0	
Lahontan F.C.33087	1.18	1.07	.85	.80	.31	4.21	3.37	86	46.9	51.9	4.6	4.0	3.6	
Indiana Syn "F" F.C.33188	1.70	.97	.62	.87	.32	4.48	3.76	78	51.7	53.9	5.9	6.0	6.0	
New Mexico 11-1 F.C.33209	1.36	1.10	.89	.93	.39	4.67	4.06	88	50.3	49.9	4.4	5.0	4.9	
Buffalo F.C.32984	1.37	1.11	.90	.98	.43	4.79	4.15	85	52.2	51.9	5.0	5.0	5.0	
Socheville P.I.224623	1.38	1.20	.85	.86	.39	4.68	4.30	86	48.3	50.3	3.5	4.0	4.3	
N.C. Syn. B(51)7 F.C.32644	1.56	1.20	.82	.87	.41	4.86	4.30	91	47.7	50.6	4.3	5.0	4.9	
Williamsburg F.C.33204	1.33	.98	.86	1.00	.46	4.63	4.29	86	49.0	49.6	5.0	5.0	4.5	
Caliverde F.C. 32594	1.21	1.02	.75	.95	.35	4.28	3.45	67	47.9	50.7	4.6	4.3	4.4	
Vernal F.C. 31983	1.70	1.16	.69	1.05	.40	5.00	4.42	83	52.5	54.0	6.0	6.0	6.0	
Atlantic F.C.33492	1.44	1.05	.70	.88	.36	4.43	4.05	86	49.8	50.2	5.6	5.6	5.6	
L.S.D. at .05 level	.24	.19	.17	.23	.12	.67		2.4%	N.S.					
L.S.D. at .01 level	.32	.25	.23	N.S.	.16	.90		4.3%	N.S.					
C.V.	12.1%	12.5%	16.1%	18.3%	22.8%	10.6%		9.5%	8.3%					

1/ Stand counts were made by the point quadrat method on June 2, 1960. One hundred points were counted per 5' x 20' plot 15 days after first cutting was made. Stand based on number of hits per 100 points.

2/ Percent leaves based on samples of 40 stems per plot (June 14, 1960).

3/ Spring vigor based on scale of 1 to 9; 1= high vigor, 9= low vigor. Rated April 19, 1960.

4/ Fall vigor based on scale of 1 to 9; 1= high vigor, 9= low vigor. Rated October 14, 1960.

5/ Recovery after cutting based on scale of 1 to 9; 1= most rapid recovery, 9= least rapid recovery. Rated on June 29, 1960, 15 days after second cutting.

Table 3.--Alfalfa Synthetic Variety Yield Test - 1960

Location: Block 37, Agronomy Farm, Fayetteville, Arkansas
 Design: Randomized block; 4 replications.

Established: September 20, 1956 on Waynesboro silt loam

Soil Treatment: 40-80-80 fertilizer and 2 ton lime per acre at time of seeding. Topdressed with 25-50-100 per acre on February 27, 1957, 0-30-60 fertilizer per acre on March 21, 1958, 0-60-30 fertilizer per acre on February 27, 1959, and 0-100-150 fertilizer and 20 pounds of boron per acre on March 23, 1960.

Plot Size: 5 feet by 20 feet

Seeding Rate: 20 pounds of live, pure seed per acre.

Harvested: 5 times (May 18, June 14, July 14, August 19 and October 21, 1960).

Variety	Hay yield in tons per acre (12% moisture)								Percent		Recovery	
	1st cut		2nd cut		3rd cut		4th cut		5th cut		Stand 1/ 57-60	Leaves 2/ 1960 4-yr.av. 57-60
	cut		cut		cut		cut		cut			
A-225 Syn. 4	1.39	.92	.70	1.24	.50	4.75	4.04				70	50.4
Indiana Syn "F" F.C. 33188	1.76	1.01	.71	1.29	.45	5.22	4.45				67	49.6
Vernal F.C. 31983	1.55	1.04	.78	1.24	.49	5.10	4.34				81	44.9
A-253 Syn. 1	1.72	1.19	.80	1.03	.46	5.20	4.29				84	50.7
Buffalo F.C. 32984	1.41	1.09	.96	1.10	.51	5.07	4.33				84	48.7
A-224 Syn. 3	1.55	.92	.67	1.10	.36	4.61	3.82				70	51.5
A-248 (Grandfield)	1.61	1.15	.92	1.01	.48	5.17	4.37				83	48.4
A-204 Syn. 4	1.71	1.13	.84	.96	.42	5.06	4.36				85	49.5
A-223 F.C. 24993	1.61	.95	.70	1.27	.45	4.98	4.18				70	46.0
Ranger	1.37	1.03	.88	1.04	.45	4.77	3.94				82	50.9
L.S.D. at .05 level	.21	.15	.11	.23	N.S.	N.S.					1.4	N.S.
L.S.D. at .01 level	.29	.20	.15	N.S.	N.S.	N.S.					2.3	N.S.
C.V.	9.3%	9.7%	9.6%	13.8%	17.0%	7.0%					7.0%	11.9%

1/ Stand counts were made by the point quadrat method on June 3, 1960. One hundred points were counted per 5' x 20' plot 16 days after the first cutting was made. Stand based on number of hits per 100 points.

2/ Percent leaves based on samples of 40 stems per plot (June 14, 1960)

3/ Spring vigor based on scale of 1 to 9; 1=high vigor, 9=low vigor. Rated April 19, 1960.

4/ Fall vigor based on scale of 1 to 9; 1=high vigor, 9= low vigor. Rated October 14, 1960.

5/ Recovery after cutting based on scale of 1 to 9; 1=most rapid recovery, 9= least rapid recovery. Rated on June 29, 15 days after second cutting.

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Table 4.--Alfalfa "Plant Type" Variety Yield Test - 1960

Location:

Block 37, Agronomy Farm, Fayetteville, Arkansas

Design:

Randomized block; 4 replications.

Established:

March 13, 1957 on Waynesboro silt loam.

Soil Treatment:

2 ton lime per acre applied in August 1956, 40-80-80 fertilizer per acre applied in September 1956 and 30-60-120 fertilizer per acre March 1, 1957. Topdressed with 0-30-50 fertilizer per acre March 21, 1958, 0-60-30 fertilizer per acre February 27, 1959, and 0-100-150 fertilizer and 15 pounds of boron per acre on March 23, 1960.

Plot Size:

5 feet by 12 feet

Seeding Rate:

20 pounds of live, pure seed per acre

Harvested:

5 times (May 19, June 14, July 14, August 19 and October 21, 1960)

Plant types:

Lahontan and Buffalo are high crown, hay types; Vernal is a low crown, hay type; Rhizoma and Sevelra are low crown, rhizomatous, pasture types; and Rambler is a low crown, creeping-rooted, pasture type.

Variety	Hay yield in tons per acre (12% moisture)						Stand 1/ 100	Percent leaves ² / vigor ³	Spring Fall ⁴ /after cutting ⁵	Recovery
	1st cut	2nd cut	3rd cut	4th cut	5th cut	Total 1960	3 yr. av. 58-60			
Sevelra	1.07	.81	.61	.88	.31	3.68	3.65	54.0	6.0	5.9
Lahontan	.74	.66	.55	.74	.26	2.95	2.59	52.8	4.5	4.3
Rambler	.67	.38	.24	.57	.15	2.01	2.15	52.6	7.8	8.0
Rhizoma	1.14	.97	.71	.94	.34	4.10	3.79	52.6	5.8	6.0
Vernal	1.37	1.07	.59	.96	.34	4.33	4.22	49.2	5.8	6.0
Buffalo	1.08	.89	.69	.81	.36	3.83	3.69	49.3	5.0	5.0
L.S.D. at .05 level	.28	.25	.18	N.S.	.09	1.03		N.S.		
L.S.D. at .01 level	.39	.35	.25	N.S.	.13	1.43		N.S.		
C.E.	18.6%	21.5%	21.2%	23.9%	21.2%	19.7%		4.7%		

Stand counts were made by the point quadrat method on June 4, 1960. One hundred points were counted per 5' x 12' plot 16 days after the first cutting was made. Stand based on number of hits per 100 points. Initial stand of Lahontan reduced by blackstem in 1957.

Present leaves based on samples of 40 stems per plot (June 14, 1960).

Spring vigor based on scale of 1 to 9; 1= high vigor, 9= low vigor. Rated April 19, 1960.

Fall vigor based on scale of 1 to 9; 1= high vigor, 9= low vigor. Rated October 14, 1960.

Recovery after cutting based on scale of 1 to 9; 1= most rapid recovery, 9= least rapid recovery. Rated on June 29, 1960, 15 days after first cutting.

Table 5.--NE-28 Alfalfa Varieties and Synthetics - 1958

		Location: Storrs, Conn.		1960 Data																	
		Total Yield T/A (12% M)		% Alfalfa		% Stand															
Number	Entry	Cut 1		Cut 2		Season		Yield		6/10		7/25		5/22		7/7		9/6		Total	
		6/10	7/25	6/10	7/25	6/10	7/25	6/10	7/25	6/10	7/25	6/10	7/25	6/10	7/25	6/10	7/25	6/10	7/25	Alfalfa	Fraction
36	Indiana Syn F.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	N.Y. A	2.16	1.88	4.04	4.04	98	98	74	98	80	80	89	95	89	89	89	89	95	95	3.44	3.44
38	N.Y. B	2.52	1.91	4.43	4.43	89	89	65	89	75	75	85	94	85	85	85	85	94	94	3.33	3.33
39	N.Y. C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	Syn. A-242	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	Buffalo	2.38	1.71	4.09	4.09	89	89	55	89	68	68	78	87	78	78	78	78	87	87	2.82	2.82
42	Williamsburg	2.26	1.90	4.16	4.16	88	88	62	88	73	73	83	84	83	83	83	83	84	84	3.28	3.28
43	Lahontin	2.02	1.41	3.43	3.43	55	55	35	55	31	31	28	35	28	28	28	28	35	35	1.49	1.49
44	Ranger	2.42	1.65	4.07	4.07	96	96	54	96	64	64	74	90	74	74	74	74	90	90	2.90	2.90
13	Atlantic	2.48	1.86	4.34	4.34	92	92	73	92	81	81	85	92	85	85	85	85	92	92	3.53	3.53
14	DuPuits	2.63	1.60	4.23	4.23	92	92	75	92	81	81	65	34	65	65	65	65	34	34	3.45	3.45
15	Narragansett	2.47	1.81	4.28	4.28	88	88	70	88	80	80	82	82	82	82	82	82	82	82	3.33	3.33
16	Vernal	2.15	1.78	3.94	3.94	91	91	74	91	75	75	82	92	82	82	82	82	92	92	3.21	3.21
49	Rambler	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	NK-501	2.48	1.85	4.33	4.33	94	94	65	94	79	79	78	66	78	78	78	78	66	66	3.59	3.59
51	Alfa	2.63	1.49	4.12	4.12	99	99	83	99	85	85	74	30	74	74	74	74	30	30	3.66	3.66
52	Moapa	1.58	1.10	2.68	2.68	28	28	13	28	5	5	2	2	2	2	2	2	2	2	.51	.51
Average		2.32	1.69	4.01	4.01															2.71	2.71
F - Varieties		6.94**	7.56**	11.71**	11.71**																
L.S.D. (P = .05)		.31	.24	.39	.39																
C.V. %		10.7	11.4	7.7	7.7																

Average estimates of wilted plants on 9/6 showed:

Williamsburg	-	4%
Lahontin	-	4%
DuPuits	-	24%
Narragansett	-	3%
NK-501	-	22%
Alfa	-	26%

CONNECTICUT - Storrs

Table 6.--1958 NE-28 Alfalfa Polycross Progeny Test I

Location: Storrs, Conn. 1960 Data

Random Number	Entry	Total Yield T/A (12% M)		% Alfalfa		% Stand			Total Alfalfa Fraction
		Cut 1 6/6	Cut 2 7/22	Season Yield	6/6	7/22	5/22	7/7	9/6
1	C-10	2.04	1.55	3.59	35	80	52	55	88
2	C-12	2.26	1.65	3.91	54	84	61	67	86
3	C-42	2.03	1.47	3.50	41	83	45	56	78
4	C-44	2.14	1.54	3.68	35	68	54	45	70
5	C-57	1.87	1.57	3.44	38	81	57	63	85
6	C-112	2.17	1.73	3.90	50	85	64	70	90
7	C-188	2.21	1.67	3.88	52	80	64	68	91
8	NY 49-33	2.16	1.62	3.78	41	88	55	60	82
9	NY 49-40	2.10	1.62	3.72	42	78	47	59	82
10	NY 49-55	2.23	1.72	3.95	47	87	63	76	92
11	NY 49-60	2.13	1.68	3.81	51	81	62	64	89
12	NY 49-72	2.15	1.76	3.92	44	82	63	74	93
13	Atlantic	2.28	1.79	4.06	51	84	61	72	88
14	DuPuits	2.36	1.47	3.82	43	84	53	40	38
15	Narragansett	2.37	1.81	4.19	55	88	67	74	90
16	Vernal	2.24	1.71	3.95	43	84	58	64	76
	Average	2.17	1.65	3.82					
	F - Varieties	1.16-	2.82**	1.85*					
	L.S.D. (P = .05)	-	.18	.40					
	C. V. %	12.1	8.6	8.5					

Estimated % wilt observed on 9/6

C-44 2%
DuPuits 12%

CONNECTICUT - Storrs

Table 7.--1956 NE-28 Alfalfa Polycross Progeny Test II
Location: Storrs, Conn.

Random Number	Entry	Total Yield T/A (12% M)				% Alfalfa		% Stand			Total Alfalfa Fraction	
		Cut 1		Cut 2		6/10	7/28	5/21	7/8	8/31		
		6/10	Season Yield	7/28	Yield							
17	C - 53	2.10	3.31	1.21	3.31	40	73	51	34	68	1.73	
18	C - 91	2.75	4.10	1.35	4.10	35	68	48	34	69	1.89	
19	C - 187	2.33	3.85	1.51	3.85	39	79	54	51	70	2.12	
20	C - 199	2.78	4.22	1.43	4.22	32	66	45	29	64	1.84	
21	C - 221	1.83	3.20	1.36	3.20	51	73	49	36	64	1.92	
22	NY 49-6	2.31	3.63	1.32	3.63	35	74	56	50	75	1.80	
23	NY 49-9	2.05	3.11	1.05	3.11	34	69	23	20	45	1.21	
24	NY 49-14	2.73	4.33	1.60	4.33	57	62	65	58	79	2.56	
25	NY 49-18	2.62	4.02	1.40	4.02	29	71	49	40	66	1.76	
26	NY 49-19	2.30	3.63	1.32	3.63	50	68	35	36	61	1.85	
27	NY 49-57	2.37	3.94	1.57	3.94	42	76	51	45	76	2.20	
28	NY 49-75	2.70	4.08	1.37	4.08	33	76	50	36	60	1.93	
29	Pa. 4	2.52	4.02	1.50	4.02	37	73	51	43	76	2.03	
13	Atlantic	2.42	3.88	1.46	3.88	34	63	58	48	73	1.75	
14	DuPuits	2.65	4.06	1.41	4.06	46	82	53	30	41	2.39	
15	Narragansett	2.52	4.11	1.59	4.11	45	77	60	53	71	2.38	
16	Vernal	2.90	4.44	1.54	4.44	39	73	51	41	66	2.27	
	Average	2.46	3.88	1.41	3.88	39	72				1.99	
	F - Varieties	2.23*	2.47**	2.47**	2.70**							
	L.S.D. (P = .05)	.54	.25	.25	.66							
	C.V. %	15.8	12.7	12.7	12.0							

CONNECTICUT - Storrs

Table 8.--1958 NE-28 Alfalfa Polycross Progeny Test II
Location: Storrs, Conn. 1960 Data

Random Number	Entry	Total Yield T/A (12% M)			% Alfalfa		% Stand		Total Alfalfa Fraction
		Cut 1 6/7	Cut 2 7/22	Season Yield	6/7	7/22	5/22	7/7	9/6
17	C - 53	2.11	1.73	3.84	66	91	69	77	92
18	C - 91	2.27	1.80	4.06	51	94	62	77	94
19	C - 187	2.15	1.77	3.92	62	92	68	83	93
20	C - 199	2.22	1.75	3.97	51	82	62	67	92
21	C - 221	2.12	1.71	3.83	50	81	57	61	83
22	NY 49-6	-	-	-	-	-	-	-	-
23	NY 49-9	2.25	1.71	3.96	54	84	57	69	83
24	NY 49-14	2.30	1.74	4.04	56	82	64	69	86
25	NY 49-18	2.06	1.58	3.63	51	71	54	68	81
26	NY 49-19	2.12	1.56	3.68	-	-	51	61	89
27	NY 49-57	2.12	1.53	3.65	37	79	49	49	83
28	NY 49-75	-	-	-	-	-	-	-	-
29	Pa. 4	2.25	1.70	3.95	60	89	60	76	88
13	Atlantic	2.20	1.76	3.96	45	87	57	67	83
14	DuPuits	2.27	1.44	3.71	51	82	62	50	31
15	Narragansett	2.05	1.83	3.88	57	69	68	82	82
16	Vernal	1.99	1.65	3.65	52	86	52	65	81
	Average	2.16	1.68	3.85	52	83			
	F - Varieties	1.32-	2.92**	1.86*					
	L.S.D. (P = .05)	-	.18	.44					
	C.V. %	8.4	8.5	6.4					

Table 9.--1958 NE-28 Alfalfa Polycross Progeny Test III
Location: Storrs, Conn.

Random Number	Entry	Total Yield T/A (12% M)			% Alfalfa		% Stand			Total Alfalfa Fraction	
		Cut 1	Cut 2	Season Yield	6/9	7/25	5/21	7/7	9/6		
		6/9	7/25								
30	57 - Pa. (-11-5)	2.23	1.54	3.77	51	85	57	56	71	2.45	
31	57 - Pa. (-7-15)	1.95	1.48	3.43	43	72	48	38	41	1.90	
32	57 - Pa. (-7-7)	2.32	1.56	3.88	66	81	61	51	60	2.50	
33	57 - Pa. (-7-9)	2.22	1.67	3.89	58	65	62	70	81	2.37	
34	57 - Pa. (-7-16)	-	-	-	-	-	-	-	-	-	
35	57 - Pa. (-7-12)	2.25	1.60	3.85	52	81	51	49	53	2.49	
13	Atlantic	2.41	1.89	4.29	67	96	77	88	93	3.43	
14	DuPuits	2.43	1.82	4.25	58	95	71	68	62	3.11	
15	Narragansett	2.20	1.84	4.05	62	94	74	89	94	3.10	
16	Vernal	2.32	1.69	4.01	69	94	69	77	90	3.17	
	Average	2.26	1.68	3.94	58	85				2.72	
	F - Varieties	1.54=	4.50**	3.69**							
	L.S.D. (P = .05)	-	.20	.39							
	C.V. %	11.3	9.7	7.7							

For entries in this test, wilt symptoms were observed only on 8% of plants of DuPuits in 1960.

GEORGIA - BLAIRSVILLE

Table 10.--Alfalfa variety test, 1960; planted August 28, 1958; rate of seeding - 30 lbs./acre; method of seeding - broadcast; plots 5' x 20'; randomized block design - 3 replications*

Variety	Yield - tons dry matter/acre				Average 1959-60
	Cut. 1 5-28	Cut. 2 7-7	Cut. 3 8-5	Total 3 cuts.	
Du Puits	1.05	1.04	.95	3.04	4.13
N. C. A.B. ('57)	1.34	1.12	1.05	3.51	4.16
N. C. Syn. F1 ('56)	1.39	1.19	.96	3.54	4.17
Socheville	1.20	1.04	.64	2.88	3.81
N. K. - 510	1.29	1.00	.92	3.21	3.85
N. C. Syn. G4 ('57)	1.06	1.08	.88	3.02	3.73
N. C. Syn. G1 ('57)	1.14	1.08	.92	3.14	3.78
Narragansett	1.27	1.08	.93	3.28	3.83
Williamsburg	1.21	.95	1.04	3.20	3.73
Uruguay Clone #10	1.16	.88	.81	2.85	3.51
Atlantic	1.21	1.01	.94	3.16	3.65
Caliverde	.77	.57	.76	2.10	3.00
Vernal	1.26	.83	.69	2.78	3.33
Buffalo	1.05	.71	.80	2.56	3.21
Okla. Common	1.20	.80	.84	2.84	3.32
N. C. Syn. F2 ('56)	1.02	.83	.98	2.83	3.31
New Mexico 11-1	1.01	.69	.79	2.49	3.08
Italian Selection	.82	.77	.85	2.44	2.97
Lahontan	.80	.64	.77	2.21	2.82
LSD .05	.21	.22	n.s.	.68	
.01	.29	.30		.91	
CV	12.0	15.0	23.0	14.1	

*Four replications were planted but one was discarded because of poor inoculation.

GEORGIA - Experiment

The season last winter was very unusual. The weather was mild during the early part of the winter. The means for maximum and minimum temperature were: December, 56°-37°; January, 53° - 37°; February, 54° - 34°, and the first three weeks of March, 46° - 27°, with a low of 11° on the fifth.

This long period of alternate freezing and thawing killed most of the alfalfa. Five varieties had about 25 percent survival, Narragansett, Oklahoma Common, Ranger, Rhizoma, and Vernal. Another five had practically no surviving plants, African, Buffalo, Caliverde, Chilean, and Indian.

The other varieties in the test had about 5 to 10 percent stand left, Atlantic, Du Puits, Kansas Common, Lahontan, New Mexico 11-1, Socheville, Talent, and Williamsburg.

KENTUCKY - Woodford County and Princeton

Table 11.- Alfalfa Variety Trial 1957-60. Seeded in spring 1956 at rate of 12 lbs/A.
Randomized block design. Plots 5' x 25' broadcast

Variety	Yield- Tons dry matter/acre											
	Princeton						Woodford County					
	(3 cuts) (3 cuts) (4 cuts) (3 cuts)						(3 cuts) (4 cuts) (4 cuts) (4 cuts)					
	1957	1958	1959	1960	4-yr Total		1957	1958	1959	1960	4-yr Total	Yearly Ave.
N C Syn A(55)5	4.08	3.99	4.44	3.09	15.60		3.23	4.70	3.98	2.99	14.90	3.81
Narragansett	4.48	4.04	4.89	3.36	16.77		3.07	4.59	3.50	2.32	13.48	3.78
N C Syn B(51)7	4.20	3.96	5.06	3.27	16.49		2.95	4.91	3.74	3.04	14.64	3.89
N C Syn D(51)10	4.39	4.04	4.55	3.21	16.19		2.98	4.98	3.93	3.12	15.01	3.90
Williamsburg	4.07	4.12	4.41	3.24	15.84		2.75	4.97	3.77	2.37	13.86	3.71
N C Syn.B(51)6	4.73	3.99	4.54	3.36	16.62		3.07	4.87	3.91	3.13	14.98	3.95
Buffalo	4.19	3.99	4.68	3.18	16.04		2.77	4.61	3.66	2.89	13.93	3.75
N.C.Syn D(51)12	4.19	3.84	4.70	3.39	16.12		3.08	4.86	3.89	3.14	14.97	3.89
Vernal	4.02	4.06	4.76	3.57	16.41		3.11	4.47	3.79	2.87	14.24	3.83
DuPuits	3.94	4.35	4.97	3.18	16.44		3.32	4.80	3.81	2.74	14.67	3.89
Atlantic	3.93	4.12	4.26	2.94	15.25		3.11	4.64	3.90	2.51	14.16	3.68
L.S.D. .05	N.S.	N.S.	0.22	0.51	N.S.		0.31	0.33	N.S.	N.S.	N.S.	N.S.
L.S.D. .01	N.S.	N.S.	N.S.	N.S.	N.S.		N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
C.V.%	6.8	12.0	13.0	18.6	6.8		4.1	4.8	6.6	7.9	5.9	12.3

Interactions, etc.

Years	--	--	--	--	--	--	--	--	--	--	--	--
Years x varieties	--	--	--	--	--	--	--	--	--	--	--	--
Locations	--	--	--	--	--	--	--	--	--	--	--	--
L x V	--	--	--	--	--	--	--	--	--	--	--	--
L x Y	--	--	--	--	--	--	--	--	--	--	--	--

MARYLAND - Trappe

TABLE 12. Hay Yields (Tons/Acre @12% Moisture) and Other Agronomic Characteristics of Alfalfa Varieties and Alfalfa-Orchardgrass Mixtures Evaluated at Trappe, Maryland, 1958-60. Plots established September 16, 1958. Soil type: Sassafras sandy loam, highly productive. Replications: 6, RCB. Plot size: 6' x 20'. Fertilization: 500 lbs. 0-10-20 with boron, spring of 1959 and 500 lbs. 0-10-20 with boron, spring of 1960. Seeding rate: 24 lbs. alfalfa per acre; 16 lbs. alfalfa, 4 lbs. orchardgrass per acre for mixtures. Insects controlled by application of granulated heptachlor in early March.

Forage Yields:									
1960 Evaluation								1959	2-yr.
Variety	1 to 10 score ¹		Hay yields					Total	ave.
	Vigor 4/15	Stand 4/15	5/21	6/27	7/28	8/26	Total	Hay Yields	hay yield
Du Puits	3.0	4.0	1.67	1.81	0.87	0.38	4.73	6.24	5.48
Vernal	3.0	5.7	1.65	1.81	0.79	0.37	4.62	5.73	5.18
Narragansett	2.3	5.3	1.50	2.01	0.84	0.40	4.75	5.61	5.18
Williamsburg	3.0	5.5	1.48	1.86	0.98	0.69	5.01	5.93	5.47
Atlantic	3.5	5.5	1.72	1.76	0.99	0.64	5.11	6.05	5.58
Buffalo	2.5	3.3	1.46	1.82	1.01	0.47	4.76	6.32	5.54
Du Puits + Potomac	3.8	3.5	1.87	1.89	0.86	0.32	4.94	6.41	5.68
" + Penn. Med. Syn.	4.0	5.3	1.82	1.90	0.90	0.36	4.98	6.44	5.71
" + Pennlate	3.3	3.7	1.70	1.94	0.83	0.30	4.77	6.31	5.54
Narragansett + Potomac	2.0	4.3	1.73	1.80	0.85	0.38	4.76	5.63	5.20
" + Penn. Med. Syn.	1.5	5.8	1.63	1.84	0.80	0.47	4.74	5.73	5.24
" + Pennlate	2.0	4.5	1.56	1.81	0.73	0.30	4.40	5.38	4.89
N. C. AB(57)	4.0	6.5	1.74	1.90	0.85	0.50	4.99	6.05	5.52
N. C. Syn. A(51) 5	3.3	6.8	1.66	1.87	0.96	0.53	5.02	6.24	5.63
N. C. Syn. B(51) 6	3.8	7.2	1.70	1.86	0.97	0.88	5.41	6.32	5.86
N. C. Syn. B(51) 7	3.3	5.8	1.59	1.81	0.92	0.72	5.04	6.18	5.61
N. C. Syn. D(51) 12	3.0	5.3	1.47	1.93	0.88	0.71	4.99	5.91	5.45
N. C. Syn. G 4 (57)	3.2	3.8	1.48	1.74	0.81	0.54	4.57	6.12	5.35
MEAN	3.0	5.1	1.64	1.85	0.88	0.50	4.87	6.03	5.45
C.V. (%)	31.8	40.8	11.1	10.2	13.2	5.8	17.4	17.2	8.3
L.S.D. .05	1.1	3.3	0.21	0.22	0.13	0.33	0.44	0.46	0.34

¹ Scores 1 to 10: 1 = least and 10 = most.

NEW YORK - Ithaca

Table 13.--1960 Data from 1957 Alfalfa U.S.D.A. Singlecross Test,--Ketola Field, Ithaca, New York.
Broadcast seeded April 1957. Randomized complete block design, 4 replications.
Cutting management: 3 cuttings/season.

Cutting management: 3 cuttings/season.										
Random Number	Lot Number	Identification	Yield - Tone Per Acre			% Legume		Yield		1957-60 Ave. Yld.
			6/22	8/11	9/16	Total	6/22	8/11	9/16	
1 11	57-65	49-40 x Minn. 247	2.35	1.13	.33	3.82	79	100	3.32	3.90
	57-75	49-18 x Minn. 247	2.14	1.18	.50	3.81	71		3.20	4.14
10 6	57-74	49-40 x Minn. 265	2.45	1.42	.44	4.30	90		4.06	4.75
	57-70	49-18 x Minn. 265	2.43	1.36	.56	4.35	89		4.08	4.58
5 4	57-69	49-40 x S. Dak. H2-7	2.41	1.41	.45	4.27	89		4.00	4.56
	57-68	49-18 x S. Dak. H2-7	2.28	1.23	.48	3.99	88		3.73	4.43
8 3	57-72	49-40 x S. Dak. H2-5	2.18	1.07	.26	3.51	83		3.14	3.67
	57-67	49-18 x S. Dak. H2-5	2.13	1.35	.56	4.04	85		3.72	4.54
14 20	57-78	49-40 x Iowa 42	2.47	1.12	.40	3.99	79		3.47	3.96
	57-84	49-18 x Iowa 42	2.25	1.20	.53	3.97	84		3.62	4.30
25 15	57-89	49-40 x Iowa 187-7	2.41	1.48	.52	4.41	78		3.88	4.54
	57-79	49-18 x Iowa 187-7	2.44	1.62	.66	4.72	88		4.43	5.10
21 18	57-85	49-40 x Nebr. 1740	2.19	1.47	.46	4.12	81		3.70	4.69
	57-82	49-18 x Nebr. 1740	2.54	1.47	.60	4.62	84		4.20	4.94
22 26	57-86	49-40 x Nebr. 1996	2.65	1.39	.50	4.54	75		3.88	4.72
	57-90	49-18 x Nebr. 1996	2.29	1.15	.54	3.98	83		3.59	4.40
19 23	57-83	49-40 x Pa. 53-13	2.37	1.48	.60	4.45	89		4.19	4.77
	57-87	49-18 x Pa. 53-13	2.13	1.17	.54	3.84	75		3.31	4.50
13 17	57-77	49-40 x Pa. 53-19	2.38	1.32	.57	4.27	81		3.82	4.75
	57-81	49-18 x Pa. 53-19	2.01	1.06	.49	3.56	83		3.22	4.08

Table 13.--1960 Data from 1957 Alfalfa U.S.D.A. Singlecross Test - Ketola Field, Ithaca, New York (Continued)

Random Number	Lot Number	Identification	Yield - Tons Per Acre			% Legume		Yield Alfalfa Fraction	1958-60 Ave. Yield
			6/22	8/11	9/16	6/22	8/11		
24	57-88	49-40 x C 902 Nev.	2.07	1.61	.74	93	100	4.27	4.62
9	57-73	49-18 x C 902 Nev.	2.08	1.53	.67	90	100	4.07	4.49
7	57-71	49-40 x N. Car. 4	2.41	1.46	.56	85		4.09	4.77
16	57-80	49-18 x N. Car. 4	2.65	1.65	.69	93		4.80	5.13
2	57-66	49-18 x C89 Nev.	2.40	1.49	.69	90		4.34	4.63
12	57-76	49-40 x 49-18	2.41	1.17	.63	76		3.63	4.62
27	57-58	Narragansett	2.57	1.45	.53	83		4.11	5.00
28	57-49	DuPuits	2.46	1.59	.71	95		4.64	5.20
29	57-64	Vernal	2.48	1.53	.53	88		4.24	4.90
		Average	2.34	1.37	.54	84	100	3.38	4.57
		F - Varieties	2.45**	3.82**	8.71**	4.45**			
		L.S.D. (P = .05)	.31	.24	.10	.48			
		C.V. (%)	9.4	12.5	13.9	8.0			
		Ave. D.M. %	21.8	27.7	20.7				
		Average 49-40 in 12 single x's	2.36	1.36	.48	4.21			4.47
		Average 49-18 in 12 single x's	2.28	1.33	.56	4.18			4.55

Notes: 1. 1960 cutting schedule did not favor full expression of growth-type differences, some volunteer grass was present in the 1st cut; 2nd and 3rd cuts were mostly alfalfa.

NEW YORK - Ithaca

Table 14.--1960 Data from 1958 Alfalfa U.S.D.A. Singlecross Test - Middle Ogden Field, Ithaca, New York.
Broadcast seeded May 1958. Randomized complete block design; 6 replications.
Cutting management: 3 cuts/season.

Random Number	Entry	Yield - Tons/Acre			(12% moisture) Total	% Stand 9/26	Recovery (10% most) 9/27	% D. M.	
		6/10	7/22	9/6				9/26	6/10
13	Pa. 53-13 x C902	2.40	1.69	1.22	5.30	88	9		20.4
19	Pa. 53-19 x C902	2.40	1.69	1.22	5.31	87	8		20.2
4	Pa. 53-13 x Neb. 1996	2.12	1.41	1.01	4.54	84	6		19.3
14	Pa. 53-19 x Neb. 1996	2.29	1.39	.95	4.63	81	5		18.5
5	Pa. 53-13 x S.D. H 25	2.30	1.29	1.02	4.61	80	7		19.6
7	Pa. 53-19 x S.D. H 25	2.33	1.66	.94	4.43	68	3		19.3
12	Pa. 53-13 x Neb. 1740	2.45	1.50	1.03	4.97	85	6		19.5
23	Pa. 53-19 x Neb. 1740	2.45	1.53	1.06	5.07	76	4		19.1
17	Pa. 53-13 x Minn 265	2.54	1.44	1.01	4.99	78	6		19.4
9	Pa. 53-19 x Minn 265	2.14	1.35	.98	4.46	78	3		18.5
22	Pa. 53-13 x S.D. H 27	2.53	1.38	1.03	4.96	76	7		19.7
16	Pa. 53-19 x S.D. H 27	2.21	1.30	.89	4.40	75	3		18.8
18	Pa. 53-13 x Minn 247	2.35	1.43	1.03	4.81	78	7		19.5
20	Pa. 53-19 x Minn 247	2.40	1.26	.93	4.60	65	3		20.7
10	Pa. 53-13 x Iowa 42	2.88	1.40	1.05	5.33	79	7		20.4
21	Pa. 53-13 x N.C. 42	2.66	1.59	1.22	5.46	88	7		20.2
3	Pa. 53-13 x Pa. 53-19	2.24	1.42	1.11	4.77	80	7		20.0
2	Pa. 53-19 x N.C. 4	2.10	1.25	1.02	4.37	74	5		19.4
6	Pa. 53-19 x Iowa 187-7	2.39	1.38	.95	4.72	78	4		19.9
15	Pa. 53-19 x NY 49-40	2.33	1.29	1.03	4.65	80	5		19.6
1	Ind. 116 x C89	1.84	1.47	1.05	4.36	85	8		20.2
11	Ind. 116 x Ind. 136	2.25	1.44	1.22	4.91	82	6		19.2
8	Ind. 116 x Iowa 187-7	2.21	1.37	1.14	4.71	83	6		19.6
24	DuPuits F.C. 33895	2.35	1.68	1.29	5.32	83	10		20.2
25	Narragansett 58-19	2.43	1.50	1.12	5.05	79	6		20.0
	Average	2.34	1.42	1.06	4.82	80	6		19.6
	F - Varieties	3.19**	4.52**	4.70**	3.61**				1.19
	L.S.D. (P = .05)	.32	.18	.14	.50				1.5
	V.C. %	11.8	11.0	11.3	9.0				6.7
	Ave. Pa. 53-13 in 7 crosses	2.38	1.45	1.05	4.88				
	Ave. Pa. 53-19 in 7 crosses	2.32	1.45	1.00	4.70				

Notes:
1. Some dormancy reaction was showing on 9/27 but most of this was on speed of recovery.
2. 1, 13, 19, 21, & 24 most vigorous, uniform & best stands; 3, 11, also very good. Quite a mixture of types in 7, 20 & 9. May be some selfs (?)
3. Pa. 53-13 x N.C. 42 is best of lot on appearance.

Table 15.--1960 Data from 1958 Alfalfa U.S.D.A. Singlencross Trial - West Lamkin Field, Ithaca, New York.

Broadcast seeded May 1958.	6 x 6 triple lattice design, 6 replications.
Planting rate:	50 viable seed/square foot. Cutting management: 3 cuttings/season

Random Number	Entry	Yield - Tons/Acre				Season Total (Adj.)	% Legume			Total Alfalfa Fraction	% Stand 9/27
		6/13			7/28		6/13		7/28		
		6/13	7/28	9/14			6/13	9/14			
6	49-40 x Minn 247	1.48	1.42	.60	3.47	95	100	100	3.43	62	
5	49-18 x Minn 247	1.48	1.42	.74	3.78	97	100	100	3.60	78	
8	49-40 x Minn 265	1.35	1.49	.65	3.44	98	100	100	3.46	67	
7	49-18 x Minn 265	1.69	1.51	.83	4.01	100	100	100	4.03	73	
25	49-40 x S. Dak. H2-7	1.49	1.47	.72	3.64	98	100	100	3.65	66	
20	49-18 x S. Dak. H2-7	1.65	1.46	.71	3.86	97	100	100	3.77	71	
24	49-40 x S. Dak. H2-5	1.54	1.41	.63	3.51	96	100	100	3.52	61	
19	49-18 x S. Dak. H2-5	1.62	1.44	.75	3.73	98	100	100	3.78	74	
2	49-40 x Iowa 42	1.55	1.50	.74	4.14	98	100	100	3.76	57	
1	49-18 x Iowa 42	1.77	1.49	.76	4.04	97	100	100	3.97	72	
4	49-40 x Iowa 187-7	1.45	1.33	.71	3.44	100	100	100	3.49	89	
3	49-18 x Iowa 187-7	1.86	1.65	.83	4.36	99	100	100	4.32	84	
10	49-40 x Nebr. 1740	1.50	1.59	.81	3.85	99	100	100	3.88	71	
9	49-18 x Nebr. 1740	1.72	1.47	.80	4.01	99	100	100	3.97	74	
12	49-40 x Nebr. 1996	1.39	1.43	.74	3.64	97	100	100	3.52	81	
11	49-18 x Nebr. 1996	1.78	1.82	.97	4.50	100	100	100	4.57	82	
22	49-40 x Pa. 53-13	1.75	1.59	.91	4.16	99	100	100	4.23	86	
17	49-18 x Pa. 53-13	1.61	1.45	.82	3.97	99	100	100	3.86	87	
23	49-40 x Pa. 53-19	1.79	1.65	.93	4.34	100	100	100	4.37	86	
18	49-18 x Pa. 53-19	1.52	1.52	.79	3.85	97	100	100	3.78	78	
14	49-40 x Nev. C902	1.46	1.37	.76	3.45	97	100	100	3.55	83	
13	49-18 x Nev. C902	1.25	1.35	.76	3.60	99	100	100	3.35	82	

Table 15.--1960 Data from 1958 Alfalfa U.S.D.A. Singlecross Trial - West Lamkin Field, Ithaca, New York (Continued)

Random Number	Entry	Yield - Tons/Acre				(Non-adj.)		
		Season		% Legume		Total		% Stand 9/27
		6/13	7/28	9/14	Total (Adj.)	6/13	7/28	9/14
21	49-40 x N.C. 4	1.78	1.46	.80	3.96	99	100	100
16	49-18 x N.C. 4	1.61	1.61	.93	4.44	100		
15	49-18 x 49-40	1.67	1.70	.85	4.31	99		
26	49-40 x N.C. 42	1.81	2.00	.99	4.67	100		
27	49-18 x C 89	1.57	1.59	.78	4.02	98		
28	Mass. Poly-cross 1	1.76	1.57	.82	4.04	97		
29	Mass. Poly-cross 2	1.62	1.67	.89	4.11	99		
30	Ranger F.C. 34043	1.58	1.43	.73	3.70	98		
31	Vernal F.C. 34104	1.79	1.61	.78	4.24	99		
32	C 902 x N.Y. 49-40	1.38	1.56	.83	3.75	95		
33	Narragansett F.C. 34045	1.82	1.71	.89	4.38	99		
34	Buffalo F.C. 34042	1.46	1.36	.76	3.69	100		
35	Atlantic F.C. 34044	1.68	1.62	.85	4.13	100		
36	DuPuits 58-46	1.64	1.68	.81	4.11	100		
	Average	1.61	1.54	.80	3.94	98	100	100
	F - Varieties (RCB)	4.46**			4.06**			
	L.S.D. (P = .05)	.21			.41			
	C.V. %	11.7			9.2			
	Ave. D.M. %	20.0	25.6	24.2				
	Ave. of NY 49-40 in Single x's	1.54	1.48	.75	3.75			
	Ave. of NY 49-18 in Single x's	1.63	1.52	.81	4.01			

Notes: 1. Crosses between 49-18 and Iowa 42, Iowa 187-7, NC-4, Nebr. 1740, 49-40 were particularly outstanding in appearance and uniformity in first cut.

2. (49-18 x C89) and (49-18 x 49-40) excellent in appearance in 2nd harvest.

3. Spring dalapon application used - good grass control.

Table 16.--1958-1960 Summary of Data from 1957 Alfalfa U.S.D.A. Singlecross Test - Ketola Field, Ithaca, New York.
Broadcast seeded April 1957. Randomized complete block design; 4 replications.
Cutting management: 3 cuttings/season.

Random Number	Lot Number	Identification	Yield - Tons per Acre		58-60 Ave.	Ht. (10 = tall) 9/14/58	Crosby of (49-18)-(49-40) Diff. in ave. Annual yield 1958-60		Gain or loss in diff. between 1st and 3rd Harvest years
			1958	1959			1958	1960	
1	57-65	49-40 x Minn. 247	4.02	3.88	3.90	6.5	✓ .24		-.62
11	57-75	49-18 x Minn. 247	4.65	3.96	4.14	9.2			
10	57-74	49-40 x Minn. 265	5.30	4.67	4.75	6.8			✓ .24
6	57-70	49-18 x Minn. 265	5.11	4.28	4.58	9.2	-.17		
5	57-69	49-40 x S. Dak H2-7	4.65	4.76	4.56	7.5	-.13		-.72
4	57-68	49-18 x S. Dak H2-7	5.09	4.22	4.43	9.2			
8	57-72	49-40 x S. Dak H2-5	3.79	3.72	3.67	6.2	✓ .87		-.94
3	57-67	49-18 x S. Dak H2-5	5.26	4.32	4.54	9.0			
14	57-78	49-40 x Iowa 42	4.22	3.69	3.96	7.5	✓ .34		-.70
20	57-84	49-18 x Iowa 42	4.90	4.03	4.30	8.8			
25	57-89	49-40 x Iowa 187-7	4.64	4.59	4.54	6.8	✓ .56		-.55
15	57-79	49-18 x Iowa 187-7	5.50	5.10	5.10	8.8			
21	57-85	49-40 x Nebr. 1740	5.21	4.76	4.69	7.5	✓ .25		✓ .19
18	57-82	49-18 x Nebr. 1740	5.52	4.70	4.94	8.8			
22	57-86	49-40 x Nebr. 1996	4.88	4.75	4.72	7.2	-.32		-.62
26	57-90	49-18 x Nebr. 1996	4.94	4.29	4.40	9.0			
19	57-83	49-40 x Pa. 53-13	5.40	4.48	4.77	9.0	-.27		-.61
23	57-87	49-18 x Pa. 53-13	5.40	4.28	4.50	9.2			
13	57-77	49-40 x Pa. 53-19	5.50	4.48	4.75	8.2	-.67		-.13
17	57-81	49-18 x Pa. 53-19	4.92	3.76	4.08	8.8			

NEW YORK - Ithaca

Table 16.--1958-1960 Summary of Data from 1957 Alfalfa U.S.D.A. Singlecross Test - Ketola Field, Ithaca, N.Y. (Continued)

Random Number	Lot Number	Identification	Yield - Tons per Acre		58-60 Ave.	Ht. (10 = tall) 9/11/58	(49-18)-(49-40) Diff. in ave. Annual yield 1958-60		Gain or Loss in diff. between 1st and 3rd Harvest years
			1958	1959			1958-60	1958-60	
24	57-88	49-40 x C 902 Nev.	5.01	4.43	4.62	9.0	✓ .12		-.05
9	57-73	49-18 x C 902 Nev.	4.93	4.28	4.50	9.5			
7	57-71	49-40 x N. Car. 4	4.88	5.00	4.77	8.0	✓ .36		✓ .20
16	57-80	49-18 x N. Car. 4	5.62	4.80	5.13	9.5			
2	57-66	49-18 x C89 Nev.	4.97	4.34	4.63	10.0			
12	57-76	49-40 x 49-18	5.33	4.33	4.62	9.0			
27	57-58	Narragansett	5.76	4.71	5.00	8.2			
28	57-49	DuPuits	6.06	4.80	5.20	10.0			
29	57-64	Vernal	5.38	4.80	4.90	8.0			
		Average	5.06	4.42	4.57	8.4			
		F - Varieties	6.38**	4.69**					
		L.S.D. (P = .05)	.56	.50					
		C.V. (%)	7.3	8.0					
		Average 49-40 in 12 single x's	4.79	4.43	4.47	7.5			
		Average 49-18 in 12 single x's	5.15	4.34	4.55	9.1	✓ .08		.35

Notes: 1. Several factors influenced this experiment:

- Seeding rates were not adjusted due to limited stocks; while generally good stands were obtained, the entries were probably at some disadvantage to the checks. Main purpose of the trial was for observation of Alfalfa Conference.
- Cutting management in the 2nd and 3rd harvest years was not in favor of the fast recovery types as it was in harvest year-one.
- The winter of 58-59 was very severe; while killing was not evident, injury was reflected in subsequent performance.

- The heritability and influence of growth type as expressed by crosses of 49-18 and 49-40 is of interest. 49-18 contributed taller growth habit and faster recovery across the entire array of crosses than did 49-40. This is reflected in the 1st year yield and in fall growth notes. A similar difference in deep green color was also transmitted.

The difference in growth type resulted in progressively less advantage for 49-18 vs 49-40 in the 2nd and 3rd years. This is due to the effects of differential winter injury in 58-59 for the different growth types although this effect is confounded by the 2nd and 3rd year management and by amounts removed in year-one. Three-year totals were still in favor of 49-18 crosses. The uniformity within crosses and obvious high heritability of specific clonal characters was striking.

Table 17.--1960 Data from 1958 U.S.D.A. Alfalfa Variety-Cross Trial - Katola Field, Ithaca, New York

Broadcast seeded May 1958. 6 x 6 triple lattice design, 6 replications.

Cutting management: 3 cuttings/season.

Random Number	Entry	Yield - Tons per Acre (12% M)			2 yr. Ave. 5/3-6/0	% Stand* 5/3/59	% Stand 9/26/60
		6/24	8/7	9/23 (Adj. Lattice)			
1	Atlantic x Buffalo	1.50	1.31	.98	3.80	61	78
2	Atlantic x Ind. Syn. F.	1.68	1.38	.92	3.93	73	76
3	Atlantic x Lahontan	1.57	1.30	.89	3.76	56	75
4	Atlantic x Narragansett	1.64	1.40	1.01	4.05	65	81
5	Atlantic x Rambler	1.73	1.37	.97	4.08	66	72
6	Atlantic x Vernal	1.75	1.35	.95	4.04	70	76
7	Buffalo x Ind. Syn F.	1.66	1.30	.93	3.87	61	77
8	Buffalo x Lahontan	1.43	1.26	.91	3.59	48	75
9	Ind. Syn F. x Narragansett	1.75	1.43	.93	4.10	60	75
10	Ind. Syn F. x Vernal	1.78	1.36	.91	4.02	68	76
11	Lahontan x Vernal	1.67	1.35	.98	3.97	48	71
12	Narragansett x Williamsburg	1.72	1.49	.96	4.16	63	77
13	Ranger x Vernal	1.79	1.40	.98	4.18	58	73
14	Vernal x Rambler	1.72	1.33	.88	3.93	66	75
15	Vernal x Williamsburg	1.69	1.36	.99	4.04	63	80
16	Atlantic and Buffalo	1.82	1.38	.95	4.16	63	76
17	Atlantic and Lahontan	1.76	1.32	.93	4.01	61	72
18	Atlantic and Narragansett	1.88	1.37	.96	4.22	73	80
19	Atlantic and Rambler	1.74	1.31	.97	4.02	53	72
20	Atlantic and Vernal	1.86	1.42	.96	4.25	71	74
21	Buffalo and Lahontan	1.61	1.32	.83	3.75	44	76
22	Lahontan and Vernal	1.70	1.29	.92	3.92	53	74
23	Narragansett & Williamsburg	1.75	1.37	.93	4.05	70	78
24	Ranger and Vernal	1.75	1.30	.87	3.92	63	71
25	Vernal and Rambler	1.69	1.34	.91	3.95	59	66
26	Vernal and Williamsburg	1.63	1.33	.89	3.85	62	72
27	Mass. Polycross	1.64	1.22	.86	3.73	48	61
28	F. C. 34044 - Atlantic	1.74	1.37	.96	4.06	68	77
29	F. C. 34042 - Buffalo	1.63	1.22	.93	3.78	51	75
30	F. C. 34174 - Ind.Syn.F	1.66	1.23	.91	3.82	63	74
31	Lahontan	1.33	1.16	.77	3.27	37	69
32	Narragansett	1.75	1.45	.90	4.09	76	75
33	Rambler	1.67	1.16	.73	3.55	49	65
34	Ranger	1.65	1.32	.92	3.89	53	72
35	Vernal	1.87	1.43	.97	4.26	68	73
36	Williamsburg	1.68	1.34	.92	3.94	62	77
Average							
		1.69	1.33	.92	3.94	60	
F-varieties		4.88**	4.90**	5.00**	7.46**	6.38**	
L.S.D. (P=.05)		.16	.12	.08	.25	10	
C.V. (%)		8.3	8.1	7.2	5.5	14.6	
ve. D.M. (%)		26.8	31.1	25.9	5.8		

Table 17.--1960 Data from 1958 U.S.D.A. Alfalfa Variety-Cross Trial - Ketola Field, Ithaca, N.Y. (Continued)

	Parent 1	Parent 2	Parent Ave.	Var. Cross	50-50 Blend	High Parent
Atlantic x Buffalo	4.79	4.42	4.60	4.51	4.61	4.79
" x Ind. F	4.79	4.39	4.59	4.68	-	4.79
" x Lahontan	4.79	3.74	4.26	4.28	4.57	4.79
" x Narragansett	4.79	4.77	4.78	4.82	4.76	4.79
" x Rambler	4.79	4.15	4.47	4.71	4.65	4.79
" x Vernal	4.79	4.90	4.84	4.69	4.89	4.90
Vernal x Williamsburg	4.90	4.46	4.68	4.60	4.54	4.90
" x Lahontan	4.90	3.74	4.32	4.63	4.59	4.90
" x Ind. F	4.90	4.39	4.64	4.69	-	4.90
" x Ranger	4.90	4.41	4.65	4.68	4.53	4.90
" x Rambler	4.90	4.15	4.52	4.54	4.66	4.90
Buffalo x Ind. F	4.42	4.39	4.40	4.60	-	4.42
" x Lahontan	4.42	3.74	4.08	4.25	4.30	4.42
Narragansett x Williamsburg	4.77	4.46	4.61	4.84	4.60	4.77
" x Ind. F	4.77	4.39	4.58	4.75	-	4.77
Var. crosses v.s. ave. of 2 parents (15 crosses - ave.)			4.53	4.62		
Var. crosses v.s. 50-50 Blends of parents (11 crosses - ave.)				4.60	4.61	4.80
Var. crosses v.s. Hi-parent of cross (15 crosses - ave.)				4.62		4.78

L.S.D. ($P = .05$) for individual means .30 T/AApprox. L.S.D. ($P = .05$) for comparing ave. of 15 crosses = .08 T/A

NOTES: Conclusions from 2 years of data are that on the average, variety crosses do yield slightly more than the average performance of the 2 parent varieties. On the average, however, such crosses give no better performance than 50-50 blends of the same varieties. On present evidence, variety crosses are generally inferior to the best parent of a cross. When two adapted varieties are crossed, the cross may equal the best parent's performance, but does not exceed it.

Table 18.--1960 Data from 1957 NE-28 Alfa lfa Varieties and Synthetics Trial - Ketola Field, Ithaca, New York.
Broadcast seeded May 1957. Randomized Complete Blocks design, 6 replications.
Cutting management: 3 cuttings/season.

Cutting management: 3 cuttings/season:																	
Random Number	Entry	Total Yield = T/A = 12% Moisture					% Alfalfa			Total Alfalfa		% D.M. 6/7					
		1st cut		2nd cut		3rd cut	6/7	7/19	9/6	Yield	6/7		7/19	9/6			
		6/7	7/19	6/7	7/19	9/6											
36	Indiana Syn. F	2.22	.88	.90			68	83	100		4.00		68	83	100	3.14	20.0
37	New York A	2.16	.97	.93			71	85	100		4.06		71	85	100	3.29	19.8
38	New York B	2.04	1.07	.94			75	92	100		4.05		75	92	100	3.45	19.1
39	New York C	2.20	.97	.93			74	88	100		4.10		74	88	100	3.41	19.9
41	Buffalo	1.95	.92	.97			70	88	100		3.84		70	88	100	3.14	19.7
42	Williamsburg	1.93	.88	.82			70	85	100		3.63		70	85	100	2.92	20.2
43	Lahontin	1.95	1.02	1.01			68	86	100		3.98		68	86	100	3.21	20.0
44	Ranger	2.00	.95	.97			71	95	100		3.92		71	95	100	3.29	19.3
13	Atlantic	1.99	.85	.88			68	92	100		3.72		68	92	100	3.02	20.1
14	DuPuits	1.84	.87	.69			78	84	100		3.40		78	84	100	2.86	20.0
15	Narragansett	1.90	.94	.70			79	74	100		3.54		79	74	100	2.90	19.7
16	Vernal	2.15	1.00	1.05			74	89	100		4.20		74	89	100	3.53	19.7
49	Rambler	1.92	.68	.54			48	47	100		3.14		48	47	100	1.78	19.9
50	Tourneur 501	1.73	.63	.53			68	62	100		2.89		68	62	100	2.10	20.2
51	Alfa	1.95	.80	.69			76	78	100		3.44		76	78	100	2.80	19.8
	Average	1.99	.89	.84							3.72						19.8
	F - Varieties	6.11**	7.88**	8.58**							8.73**						
	L.S.D. (P = .05)	.16	.12	.16							.36						
	C.V. %	6.9	11.8	16.5							8.5						
	Ave. D.M. %	19.8	23.4	25.2													

Table 19.---1960 Data from 1958 NE-28 Alfalfa Variety and Synthetics Trial - McGowan Field, Ithaca, New York.

Broadcast seeded May 1958. Randomized complete block design, 6 replications. Cutting management: 3 cuttings/season						
Random Number	Entry	Total Yield - T/A - 12% Moisture			Ave. D.M.	
		1st cut 6/7	2nd cut 7/19	3rd cut 9/1	Season Total	% 6/7
36	Indiana Syn. F	-	-	-	-	-
37	New York A	1.81	1.50	1.35	4.66	18.3
38	New York B	1.86	1.58	1.39	4.83	18.5
39	New York C	-	-	-	-	-
40	Syn. A-242	-	-	-	-	-
41	Buffalo	1.89	1.51	1.51	4.91	18.7
42	Williamsburg	1.65	1.58	1.45	4.68	17.9
43	Lahontin	1.75	1.56	1.34	4.65	18.5
44	Ranger	1.92	1.49	1.29	4.70	18.2
45	Atlantic	1.93	1.49	1.43	4.85	18.1
46	DuPuits	1.98	1.96	1.58	5.52	18.7
47	Narragansett	1.87	1.34	1.39	4.60	18.2
48	Vernal	1.80	1.44	1.34	4.58	18.4
49	Rambler	-	-	-	-	-
50	NK-501	1.96	1.83	1.61	5.40	19.2
51	Alfa	2.00	1.75	1.51	5.26	17.8
52	Moapa	1.61	1.05	1.14	3.80	17.0
	Average	1.85	1.54	1.41	4.80	18.3
	F - Varieties	2.18**	15.36**	4.63**	12.48**	
	L.S.D. (P = .05)	.23	.16	.17	.35	
	C.V. %	9.9	8.3	9.4	5.7	
	Ave. D.M. %					18.3

Notes: 1) Good stands on all entries in this trial except for Moapa which was partially killed out in first winter

Table 20.--1958-1960 Summary of Data For 1957 NE-28 Alfalfa Varieties and Synthetics Trial - Ketola Field, Ithaca New York.

Random Number	Entry	Harvest Year: Number Cuts:	Total Yield = T/A = 12% Moisture				Alfalfa Fraction	
			1958	1959	1960	1958-60	1958-60	Average
			(3)	(3)	(3)	Ave.		
36	Indiana Syn. F		4.99	4.78	4.00	4.59	4.05	
37	New York A		5.23	4.86	4.06	4.71	4.24	
38	New York B		5.26	4.83	4.05	4.71	4.28	
39	New York C		5.10	4.63	4.10	4.61	4.13	
41	Buffalo		5.04	4.79	3.84	4.55	4.01	
42	Williamsburg		5.19	4.67	3.63	4.49	4.02	
43	Lahontin		4.10	4.51	3.98	4.19	3.56	
44	Ranger		4.71	4.67	3.92	4.43	3.95	
13	Atlantic		5.01	4.50	3.72	4.41	3.85	
14	DuPuits		5.71	4.79	3.40	4.63	4.28	
15	Narragansett		5.51	4.83	3.54	4.62	4.25	
16	Vernal		5.39	5.17	4.20	4.92	4.33	
49	Rambler		4.20	3.49	3.14	3.61	7.99	
50	Tourneaur 501		5.68	4.60	2.89	4.39	4.01	
51	Alfa		5.94	4.88	3.44	4.75	4.44	
Average			5.14	4.67	3.72	4.51		
F - Varieties			28.77**	6.85**	8.73**	18.25**		
L.S.D. (P = .05)			.27	.39	.36	.21		
C.V. %			4.5	7.3	8.5	6.7		

Notes.

- 1) Good stands persisted on all entries throughout trial period. Initial establishment was not quite as good on Lahontin and Rambler due to leaf-spot severity on seedlings and low vigor, respectively.
- 2) Stands were not affected by severe winter conditions of 1958-59. No leaf symptoms were observed on any varieties in 3rd year of test or earlier.

Table 21.--1960 Data from 1958 Alfalfa and BFT Variety x Harvest Date Trial (Meredith) - Ellis Field, Ithaca, New York.

Broadcast seeded May 1958. Split-plot design; 5 replications.
Main plots are 1st cut harvest dates; split plots are varieties.

Random Number	Entry	1st Cutting							% D.M. of Harvested Forage (1)			
		Yield - Tons per acre (12% N) on indicated Hvt. Dates							5/27 6/3 6/10 6/21 7/5			
		5/27	6/3	6/10	6/21	7/5						
1	DuPuits Alfalfa	1.35	1.22	1.54	1.55	2.01			16.8	17.0	21.7	22.3
2	Ranger Alfalfa	1.23	1.09	1.66	1.65	1.81			17.7	17.0	21.5	22.9
3	Vernal Alfalfa	1.35	1.40	1.66	1.82	2.26			18.1	17.2	21.2	23.3
4	Narragansett Alfalfa	1.38	1.40	1.77	1.76	2.22			17.7	16.7	21.1	24.0
5	Viking BFT	1.38	1.52	2.07	2.08	2.41			13.4	12.3	16.6	20.1
6	Empire BFT	1.07	1.12	1.75	1.88	2.30			13.7	12.6	16.2	18.0
	Average	1.29	1.29	1.74	1.79	2.17			16.2	15.5	19.7	21.8
	F - Varieties	4.14**	12.77**	3.95*	5.33**	4.14**			46.23**	24.18**	69.76**	27.01**
	L.S.D. (P=.05)	.18	.14	.27	.24	.33			.9	1.4	.9	1.9
	C.V. (%)	10.3	8.5	11.6	10.0	11.1			4.3	6.9	3.5	6.5

(2nd Harvest made on all plots 8/18 after 1st harvests indicated above.)

1	DuPuits Alfalfa	2.08	2.03	1.71	1.93	1.56			35.0	35.0	33.8	32.0	26.3
2	Ranger Alfalfa	1.63	1.68	1.41	1.49	1.23			35.1	33.1	34.9	31.0	29.0
3	Vernal Alfalfa	1.91	1.92	1.63	1.65	1.21			35.1	34.9	34.2	31.3	29.3
4	Narragansett Alfalfa	1.83	1.96	1.71	1.80	1.47			35.8	33.6	33.4	30.6	28.8
5	Viking BFT	2.15	2.04	1.77	1.46	1.04			29.0	30.5	29.9	24.8	24.7
6	Empire BFT	2.74	2.15	1.80	1.46	.66			30.2	26.3	26.9	22.5	22.7
	Average	2.06	1.96	1.67	1.63	1.20			33.3	32.2	32.2	28.7	26.9
	F - Varieties	8.76**	1.39-	1.66-	3.31**	5.86**			10.85**	14.54**	10.08**	55.04**	8.30**
	L.S.D. (P=.05)	.38	.40	.32	.32	.40			2.7	2.7	2.9	1.5	2.8
	C.V. (%)	14.1	15.3	14.8	15.0	25.0			6.0	5.9	6.8	4.2	7.8

Table 21.--1960 Data from 1958 Alfalfa and BFT Variety x Harvest Date Trial - Ellis Field, Ithaca, New York (Continued)

		Yield - Tons per acre (12% M)							% D.M. of Harvested Forage (1)						
1st Hvst. Date		5/27	6/3	6/10	6/21	7/5			5/27	6/3	6/10	6/21	7/5		
2nd Hvst. Date		8/18	8/18	8/18	8/18	8/18			8/18	8/18	8/18	8/18	8/18		
Random Number	Entry	3rd Harvest made on all Plots on 10/4/60													
		10/4/60													
1	DuPuits Alfalfa	.96	.95	.89	.93	.96			21.5	21.8	21.7	21.7	21.5		
2	Ranger Alfalfa	.76	.80	.77	.81	.75			21.1	21.4	21.5	21.0	21.0		
3	Vernal Alfalfa	.80	.92	.87	.94	.87			19.9	21.2	21.1	21.1	20.9		
4	Narragansett Alfalfa	.82	.91	.85	.90	.90			20.9	20.5	21.4	21.3	21.3		
5	Viking BFT	.61	.62	.58	.69	.73			17.4	17.9	17.6	18.6	17.7		
6	Empire BFT	.31	.34	.25	.22	.56			19.2	20.4	19.5	20.8	21.6		
	Average	.71	.75	.70	.75	.79			20.0	20.5	20.5	20.8	20.7		
	F - Varieties	40.06**	17.82**	30.88**	43.11**	32.22**			15.30**	9.30**	21.68**	10.73**	14.95**		
	L.S.D. (P=.05)	.11	.17	.13	.12	.08			1.2	1.5	1.0	1.2	1.2		
	C.V. (%)	11.2	16.7	14.3	12.6	7.2			4.4	5.0	3.8	3.9	4.2		
Total Season Yields for Above Management Treatments															
1	DuPuits Alfalfa	4.39	4.20	4.14	4.42	4.53			1. Good stands persisted over winter and 1st cuts were clean from weeds with good vigor. The long time interval between cuts 1 and 2, the very dry weather allowed appreciable wild parsnip to come up in 2nd cut growth.						
2	Ranger Alfalfa	3.62	3.57	3.83	3.96	3.80			2. DM %'s in 5/27, 6/3 and 6/10 are good; 6/21 and 7/5 dates are not for between date comparisons.						
3	Vernal Alfalfa	4.06	4.23	4.15	4.41	4.34			3. Height on 5/27: DP=20", Ranger=17", Vernal=16", Narr.=18", Viking=13", Empire=10".						
4	Narragansett Alfalfa	4.03	4.26	4.33	4.46	4.59									
5	Viking BFT	4.14	4.18	4.42	4.22	4.18									
6	Empire BFT	4.12	3.60	3.79	3.57	3.52									
	Average	4.06	4.01	4.11	4.17	4.16									
	F - Varieties	2.10-	2.66-	2.06-	4.29**	4.99**									
	L.S.D. (P=.05)	.51	.59	.53	.51	.56									
	C.V. (%)	9.5	11.2	9.7	9.1	10.2									

Table 22.--1960 Data from 1958 Alfalfa and BFT Variety x Harvest Date Trial (Meredith) - East Ketola Field, Ithaca, New York.

Random Number	Entry	1st Cutting							% D.M. of Harvested Forage						
		Yield - Tons per acre (12% M) on indicated Hvt. Dates													
		6/7	6/17	6/29	7/5	7/8			6/7	6/17	6/29	7/5	7/8		
1	DuPuits Alfalfa	1.62	1.65	2.30	2.66	2.23			19.6	18.3	21.2	23.1	24.3		
2	Ranger Alfalfa	1.46	1.56	2.03	2.36	1.97			20.0	19.5	21.0	22.1	24.1		
3	Vernal Alfalfa	1.66	1.58	2.11	2.56	2.39			20.3	19.5	21.0	23.5	26.0		
4	Narragansett Alfalfa	1.64	1.59	2.05	2.59	2.34			20.0	19.2	21.3	23.2	25.1		
5	Viking BFT	1.75	1.79	2.27	2.47	2.71			16.3	16.2	18.9	20.2	21.8		
6	Empire BFT	1.47	1.74	2.29	2.95	2.75			15.8	14.6	16.8	19.4	21.4		
	Average	1.60	1.65	2.18	2.60	2.40			18.7	17.9	20.0	21.9	23.8		
	F - Varieties	2.24-	1.14-	1.49-	1.92-	5.44**			35.39**	11.73**	8.17**	4.95**	6.97**		
	L.S.D. (P=.05)	.22	.26	.30	.43	.37			1.0	1.8	1.9	2.3	2.1		
	C.V. (%)	10.6	12.0	10.5	12.5	11.9			4.1	7.5	7.1	7.9	6.6		
(2nd Harvest made on all plots 8/8 after 1st harvests indicated above)															
1	DuPuits Alfalfa	1.97	1.93	1.53	1.36	1.13			31.0	27.2	25.1	23.3	22.9		
2	Ranger Alfalfa	1.69	1.61	1.22	1.11	.97			28.8	26.3	25.0	23.1	23.9		
3	Vernal Alfalfa	1.77	1.77	1.31	1.14	.96			29.6	26.5	26.0	24.1	23.3		
4	Narragansett Alfalfa	1.90	1.77	1.42	1.16	1.12			28.7	26.4	25.3	23.6	23.1		
5	Viking BFT	1.74	1.45	1.10	.91	.72			26.3	23.3	22.8	20.8	20.2		
6	Empire BFT	1.78	1.18	.73	.41	.37			24.3	21.2	22.7	19.2	20.9		
	Average	1.81	1.62	1.22	1.01	.88			28.1	25.1	24.5	22.3	22.4		
	F - Varieties	1.72-	22.90**	39.65**	131.4**	30.26**			9.21**	17.19**	4.91**	27.26**	15.80		
	L.S.D. (P=.05)	.24	.17	.13	.08	.16			2.4	1.7	1.9	1.1	1.1		
	C.V. (%)	10.0	7.7	8.2	6.3	13.4			6.3	5.1	5.7	3.7	3.7		

Table 22.--1960 Data from 1958 Alfalfa and BFT Variety x Harvest Date Trial - E. Ketola Field, Ithaca, New York (Continued)

		Yield - Tons per acre (12% N)								% D.M. of Harvested Forage				
		1st Hvt. Date -				2nd Hvt. Date -				6/7	6/17	6/29	7/5	7/8
		8/8				8/8				8/8	8/8	8/8	8/8	8/8
Random Number	Entry	3rd Harvest made on all Plots on 10/3/60												
1	DuPuits Alfalfa	1.05	1.07	1.10	1.07	1.01	1.01	1.01	21.7	22.2	22.6	21.6	21.7	
2	Ranger Alfalfa	.95	1.00	.98	.95	.89	.89	.89	21.6	21.5	21.4	20.2	21.8	
3	Vernal Alfalfa	1.03	.98	1.04	.98	.94	.94	.94	21.9	21.4	22.1	21.0	21.3	
4	Narragansett Alfalfa	.99	1.05	.99	1.01	.97	.97	.97	22.0	21.5	21.7	21.8	21.7	
5	Viking BFT	.82	.84	.78	.89	.78	.78	.78	20.1	18.9	18.9	19.3	19.1	
6	Empire BFT	.42	.48	.51	.51	.53	.53	.53	20.5	20.4	19.6	18.7	19.4	
Average		.88	.90	.90	.90	.85	.85	.85	21.3	21.0	21.1	20.4	20.9	
F - Varieties		58.00**	60.19**	26.79**	47.26**	27.48**	27.48**	27.48**	3.04**	12.42**	17.5**	10.74**	7.94**	
L.S.D. (P=.05)		.09	.09	.13	.09	.10	.10	.10	1.3	1.0	1.0	1.1	1.3	
C.V. (%)		8.0	7.1	10.6	7.3	9.0	9.0	9.0	4.7	3.6	3.7	4.2	4.8	
Total Season Yield for Above Management Treatments														
1	DuPuits Alfalfa	4.65	4.64	4.92	5.08	4.37	4.37	4.37	Notes: 1. Very good stands but other species troublesome. Samples for D.M. were always pure material. 2. Lodging and heavy growth a real problem for D.M. comparisons here in 1960. On first-cut harvests only 6/7 was made under conditions favorable for between date D.M. comparisons. Fairly favorable within date comparisons can be made although differential lodging was a factor.					
2	Ranger Alfalfa	4.10	4.16	4.23	4.42	3.82	3.82							
3	Vernal Alfalfa	4.46	4.33	4.46	4.68	4.29	4.29							
4	Narragansett Alfalfa	4.54	4.41	4.46	4.76	4.42	4.42							
5	Viking BFT	4.31	4.09	4.15	4.27	4.21	4.21							
6	Empire BFT	3.67	3.40	3.53	3.87	3.65	3.65							
Average		4.29	4.17	4.29	4.51	4.13	4.13	4.13						
F - Varieties		5.62**	14.76**	11.99**	8.03**	4.30**	4.30**	4.30**						
L.S.D. (P=.05)		.45	.33	.39	.41	.45	.45	.45						
C.C. (%)		7.9	6.0	7.0	7.4	8.3	8.3	8.3						

Table 23.--1960 Data from 1959 Alfalfa and BFT Variety x Harvest Date Trial (Meredith) - McGowan Field, Ithaca, N. Y.
Broadcast seeded April 1959. Split-plot design; 5 replications.
Main plots are indicated 1st cut harvest dates; split plots are varieties.

Random Number	Entry	1st Cutting					% D.M. of Harvested Forage *				
		Yield - Tons per acre (12% M)					On Indicated Hvst. Dates				
		5/27	6/2	6/9	6/17	6/30	5/27	6/2	6/9	6/17	6/30
1	DuPuits Alfalfa	1.61	1.85	2.17	2.63	2.72	14.6	15.5	18.7	19.0	20.1
2	Ranger Alfalfa	1.42	1.58	1.85	1.93	2.48	15.2	15.7	18.1	19.4	21.0
3	Vernal Alfalfa	1.77	1.79	2.00	2.30	2.97	15.2	15.9	18.8	18.8	21.8
4	Narragansett Alfalfa	1.83	1.77	2.16	2.29	3.05	15.4	16.1	18.6	18.4	21.2
5	Viking BFT	1.39	1.62	1.93	2.01	2.71	12.5	12.2	14.7	14.6	18.3
6	Empire BFT	1.00	1.35	1.62	1.80	2.86	12.3	11.9	14.6	13.4	18.0
Average		1.50	1.66	1.95	2.16	2.80	14.2	14.6	17.2	17.3	20.1
F - Varieties		15.65**	8.64**	3.94**	4.55**	1.59-	42.32**	32.82**	43.57**	58.24**	8.11**
L.S.D. (P = .05)		.23	.18	.31	.42	.48	.6	1.0	.9	1.0	1.6
C. V. %		11.4	8.4	11.8	14.8	13.1	3.4	5.2	4.0	4.4	6.1

(8/8 Aftermath Production from Above Cutting Treatment)											
1	DuPuits Alfalfa	2.55	2.86	2.51	2.42	2.25	25.9	27.7	23.4	22.2	21.0
2	Ranger Alfalfa	1.94	2.37	2.04	2.11	1.75	25.0	25.0	23.5	22.6	20.4
3	Vernal Alfalfa	2.32	2.46	2.33	2.23	1.88	25.5	25.0	22.9	23.0	20.0
4	Narragansett Alfalfa	2.23	2.50	2.27	2.34	2.18	25.4	23.7	22.9	22.0	21.2
5	Viking BFT	2.41	1.75	1.74	1.45	1.23	23.5	20.9	20.5	19.1	18.7
6	Empire BFT	2.68	1.87	1.67	1.02	.71	22.0	18.7	19.4	16.7	18.4
Average		2.35	2.30	2.09	1.93	1.67	24.5	23.5	22.1	20.9	20.0
F - Varieties		3.51*	8.98**	19.67**	16.60**	80.67**	7.70**	19.06**	6.73**	15.47**	6.37**
L.S.D. (P = .05)		.41	.41	.22	.41	.19	1.6	2.2	1.9	1.9	1.3
C. V. %		13.1	13.5	8.1	16.0	8.9	4.9	7.1	6.6	6.8	5.1

Table 23.-- 1960 Data from 1959 Alfalfa and BFT Variety x Harvest Date Trial - McGowan Field, Ithaca, N.Y. (Cont'd)

		Yield - Tons per Acre (12% M)										% D.M. of Harvested Forage *					
		On-Indicated Hvst. Dates															
1st Hvst. date:		5/27	6/2	6/9	6/17	6/30							5/27	6/2	6/9	6/17	6/30
2nd Hvst. date:		8/8	8/8	8/8	8/8	8/8							8/8	8/8	8/8	8/8	8/8
Random Number	Entry	(10/3 Aftermath Production from Above Cutting Treatments)															
1	DuPuits Alfalfa	1.51	1.43	1.52	1.58	1.63	21.3	21.7	21.8	22.0	21.7	21.8	22.0	22.0	21.7		
2	Ranger Alfalfa	1.20	1.18	1.12	1.12	1.04	22.5	22.5	22.5	22.7	22.5	22.5	22.7	22.7	21.4		
3	Vernal Alfalfa	1.21	1.24	1.25	1.31	1.17	22.0	22.3	22.0	22.8	22.0	22.0	22.8	22.8	21.9		
4	Narragansett Alfalfa	1.19	1.26	1.15	1.16	1.15	22.5	22.5	22.0	22.2	22.0	22.0	22.2	22.2	21.9		
5	Viking BFT	.98	.94	.93	.90	.86	17.4	18.0	18.0	17.3	18.0	18.0	17.3	17.3	17.8		
6	Empire BFT	.61	.49	.52	.47	.40	15.8	16.5	17.7	20.2	17.7	17.7	20.2	20.2	17.3		
Average		1.12	1.09	1.08	1.09	1.04	20.2	20.6	20.7	21.2	20.7	20.7	21.2	21.2	20.3		
F - Varieties		40.72**	42.22**	65.10**	46.72**	168.84**	83.88**	26.94**	14.37**	12.22**	14.37**	14.37**	12.22**	12.22**	35.10		
L.S.D. (P = .05)		.14	.15	.12	.16	.09	.9	1.5	1.7	1.8	1.7	1.7	1.8	1.8	1.1		
C. V. %		9.4	10.6	8.6	11.3	6.7	3.5	5.5	6.2	6.5	6.2	6.2	6.5	6.5	4.0		

Notes:

* Dry matter determinations made on 6/17, 6/30 and 10/3 should not be used for between date comparisons.

On 5/27, 6/2, 6/9 and 8/8, no free water was evident and cutting conditions were good.

On 6/17 and 6/30, heavy foliage growth prevented complete daily drying of ground surface and base of plants.

Within date comparisons on 6/17, 6/30 and 10/3 are valid, harvests were made under best possible conditions during these periods.

	Total Season Yields for Above Management Treatments					
1	DuPuits Alfalfa	5.66	6.15	6.20	6.63	6.60
2	Ranger Alfalfa	4.56	5.12	5.00	5.16	5.27
3	Vernal Alfalfa	5.30	5.49	5.58	5.85	6.02
4	Narragansett Alfalfa	5.25	5.53	5.57	5.79	6.38
5	Viking BFT	4.78	4.31	4.60	4.36	4.79
6	Empire BFT	4.29	3.71	3.82	3.29	3.97
	Average	4.97	5.05	5.13	5.18	5.51
	F - Varieties	6.44**	33.06**	26.46**	36.36**	30.86**
	L.S.D. (P = .05)	.60	.46	.48	.59	.54
	C. V. %	9.1	6.8	7.1	8.6	7.4

Table 24.--1960 Data from 1957 Alfalfa Variety Trial - Middle Ogden Field, Ithaca, New York.

Broadcast seeded May 1957. Randomized complete block design, 5 replications.

Planting rate: 30 viable seed/square foot. Cutting management: 3 cuttings/season

Random Number	Entry	Seed Lot Number	Yield - Tons/Acre (12% M)			% Legume			Total Yield Alf. Fraction	Avg. % Stand 9/26	% D.M. 6/9
			6/9	7/21	9/2	6/9	7/21	9/21			
1	Scandia (Alfa)	57-51	2.03	1.52	.87	100	100	100	4.41	40	20.5
2	Alfa	57-56	2.08	1.64	.98	100	100	100	4.70	41	19.7
3	Alfa - Elite	57-52	1.81	1.07	.68	90	100	100	3.38	18	20.2
4	DuPuits	57-53	2.03	1.61	1.01	99	100	100	4.63	50	20.1
5	DuPuits	57-49	1.92	1.35	.85	87	100	100	3.87	38	20.5
6	Cardinal	57-63	1.96	1.33	.73	97	100	100	3.96	30	20.8
7	Tourneur 501	57-57	1.86	1.30	.80	100	100	100	3.96	42	19.8
8	GPR - 2	-	1.84	1.11	.65	100	100	100	3.60	31	19.4
9	Rambler	57-55	1.89	.95	.53	94	100	100	3.26	22	19.3
10	Lahontin	57-54	1.91	1.56	.95	99	100	100	4.40	60	20.2
11	Ranger	57-59	1.99	1.45	.93	100	100	100	4.37	59	19.6
12	Purdue F	57-62	2.23	1.40	.90	100	100	100	4.52	67	19.5
13	N.Y. "A"	57-10	2.23	1.43	1.03	100	100	100	4.69	68	20.0
14	N.Y. "B"	57-8	2.42	1.54	1.10	100	100	100	5.05	66	20.6
15	N.Y. "C"	57-9	2.12	1.39	.90	99	100	100	4.39	64	19.7
16	N.Y. "A"	1955 seed	2.31	1.49	1.02	100	100	100	4.83	69	19.9
17	N.Y. "B"	1955 seed	2.45	1.59	1.07	100	100	100	5.11	65	20.6
18	N.Y. "C"	1955 seed	2.24	1.46	.92	99	100	100	4.60	63	20.3
19	Vernal	33273	2.27	1.41	.97	97	100	100	4.58	58	19.6
20	Vernal	57-48	2.05	1.40	.87	100	100	100	4.31	59	20.2
21	Narragansett	57-50	1.97	1.35	.75	99	100	100	4.05	49	19.6
22	Narragansett	57-58	1.79	.83	.48	92	100	100	2.96	29	20.9
	Average		2.06	1.37	.86	98	100	100			20.0
	F - Varieties		3.23**	2.74**	3.20**						
	L.S.D. (P = .05)		.31	.36	.26						
	C. V. %		11.8%	20.7%	24.2%						
	Ave. D. M. %		20.0	22.7	25.8						

Notes: A marked change in stand occurred in 1960 with the appearance of wilt on some plots of susceptible entries. Increase in error and C. V. reflects the erratic incidence of the disease over trial area. New York synthetics were outstanding.

NEW YORK - Ithaca

Table 25.--1960 Data from 1958 Alfalfa Variety Trial - West Lankin Field, Ithaca, New York.
Broadcast seeded May 1958. Randomized block design, 5 replications.
Cutting Management: 3 cuttings/season. Planting rate: 50 viable seed/square foot

Random Number	Entry	N.Y. Seed Number	Yield - Tons per Acre (12% M)					% Legume 6/8	% Stand 9/27
			6/8	7/19	9/2	Season Total			
1	Gillon	58-35	2.06	1.56	1.04	4.65	91	90	
2	FD - 100	58-36	2.06	1.54	.98	4.58	95	94	
3	GPR - 2	58-34	2.10	1.38	.82	4.30	90	87	
4	Socheville	58-28	2.16	1.51	1.15	4.81	98	88	
5	Alfa	58-29	2.19	1.66	1.08	4.93	97	89	
6	Alfa	58-2	2.07	1.45	1.06	4.59	92	91	
7	Alfa	57-51	2.17	1.69	1.08	4.94	98	97	
8	Alfa	57-56	2.24	1.67	1.09	5.00	98	91	
9	Cardinal	58-3	1.96	1.55	1.25	4.75	98	90	
10	Cardinal	57-57	1.98	1.45	1.05	4.48	96	91	
11	DuPuits	58-46	2.21	1.63	1.18	5.01	91	89	
12	DuPuits	58-18	2.09	1.59	1.16	4.84	93	92	
13	Vernal	58-16	2.15	1.33	1.02	4.49	95	82	
14	Vernal	58-47	2.24	1.44	1.06	4.74	96	77	
15	P. I. 246356	58-37	2.09	1.35	.90	4.34	87	83	
16	N.Y. Syn A-57	58-1	2.22	1.24	.84	4.30	96	92	
17	N.Y. Syn A-56	57-10	2.17	1.35	.92	4.43	90	93	
18	N.Y. Syn B-56	57-8	2.04	1.46	.88	4.38	94	94	
19	Ranger	58-17	1.89	1.29	.90	4.09	90	87	
20	Narragansett	58-19	2.20	1.45	1.06	4.70	90	85	
21	Narragansett	58-20	2.18	1.50	1.06	4.73	91	87	
22	Narragansett	58-4	2.23	1.35	.93	4.51	94	86	
23	Narragansett	58-14	2.20	1.36	.97	4.53	94	86	
24	Narragansett	58-23	2.16	1.39	1.04	4.59	89	76	
25	Narragansett	57-50	2.22	1.45	.95	4.61	95	86	
26	Average		2.13	1.46	1.02	4.61*	93	88	
	F - Varieties		1.24-	2.78**	1.54-	1.94*			
	L.S.D. (P = .05)		.24	.21	.24	.48			
	C. V. %		8.8	11.3	19.0	8.3			
	Ave. D. M. %		18.3	18.2	25.3				

Notes:

1. No loss of Stand from 1959.
2. Error in 1st cut due to lodging of heavy crop. 2nd cut good but 3rd crop affected by very 'drouthy' conditions.
3. Stand notes comparisons best made only between varieties of similar growth type. Appreciable regrowth had occurred on 9/27.
4. Refer to notes in table 22 of 1959 data summary for further information regarding this trial.

Table 26.--1960 Data from 1959 Alfalfa Variety Trial - Helfer Field #1, Ithaca, New York.

Broadcast seeded May 1959. Randomized complete block design; 6 replications.
Planting rate: 50 viable seed/square foot. Cutting management: 3 cuttings/season

NEW YORK - Ithaca											
Random Number	Entry	N.Y. Number	Yield - Tons per Acre			Season Total	% Legume 6/13	Alfalfa Fraction	% Stand 9/28	% DM 6/13	
			1st cut 6/13	2nd cut 7/25	3rd cut 9/14						
1	F-D 100	59-6	1.37	1.80	1.16	4.34	99	4.33	73	21.5	
2	Flandria	59-27	1.64	1.97	1.18	4.80	100	4.80	71	22.9	
3	NK-505	59-4	1.50	1.71	1.12	4.32	96	4.26	70	22.0	
4	NP-502	59-28	1.45	1.71	1.19	4.35	97	4.29	65	21.7	
5	NP-503	59-29	1.44	1.46	.96	3.87	96	3.81	62	22.5	
6	NP-504	59-30	1.36	1.55	1.00	3.91	94	3.83	53	22.3	
7	Ross #2	59-26	1.34	1.73	1.02	4.10	98	4.07	71	22.6	
8	Alfa	59-23	1.57	1.89	1.14	4.59	98	4.56	73	21.5	
9	DuFuits	59-22	1.48	1.92	1.17	4.57	98	4.54	70	21.5	
10	Ranger	59-21	1.21	1.45	.90	3.56	96	3.51	63	22.1	
11	Socheville	59-24	1.55	1.70	1.19	4.43	98	4.40	74	21.7	
12	Narragansett	59-19	1.33	1.56	1.00	3.89	96	3.84	61	21.8	
13	Syn. A	58-1	1.42	1.51	.97	3.90	94	3.81	66	23.2	
14	Syn. B	57-8	1.35	1.55	.98	3.88	91	3.76	59	22.0	
15	Verral	59-20	1.45	1.47	.96	3.87	96	3.81	66	23.5	
16	High Seed Narr. Wyom.	58-4	1.16	1.37	.85	3.38	91	3.28	60	22.5	
17	High Seed Narr. Cal.	59-31	1.23	1.50	.94	3.67	91	3.56	68	22.4	
18	Tuna Alf.	59-	1.34	1.58	1.04	3.96	89	3.81	73	22.7	
	Average		1.40	1.64	1.04	4.08	95	4.01	67	22.2	
	F - Varieties		4.29**	9.80**	12.4**	12.5**					
	L.S.D. (P=.05)		.17	.16	.09	.30					
	C.V. %		10.7	8.4	7.3	6.5					
	Ave. D.M. %		22.2	22.5	24.0						

Notes: Because of a high incidence of quack grass, a light dalapon application was made in early May. This did an excellent job of grass control but gave a depressant effect on the alfalfa which was noticeable on the first cut growth. Stands are generally good on all entries.

Table 27.--1960 Data from 1959 Alfalfa Variety Trial - McGowan Field, Ithaca, New York.
Broadcast seeded May 1959. Balanced lattice design; 6 replications.
Planting rate: 50 viable seed/square foot. Cutting management: 3 cuttings/season

		Yield - Tons per Acre					% Legume 6/6	Total Yield	
Random Number	Entry	N.Y. Number	6/6	7/18	9/1	Total		Air. Fraction	
1	F-D 100	59-6	2.49	1.98	1.68	6.14	90	5.90	
2	Flandria	59-27	2.49	2.11	1.86	6.45	93	6.28	
3	NK-505	59-4	2.35	1.90	1.51	5.76	91	5.54	
4	NP-502	59-28	2.43	1.93	1.72	6.08	89	5.81	
5	NP-503	59-29	2.18	1.44	1.36	4.98	88	4.72	
6	NP-504	59-30	2.39	1.61	1.37	5.37	91	5.15	
7	Ross #2	59-26	2.30	1.78	1.47	5.55	89	5.30	
8	Alfa	59-23	2.44	1.94	1.72	6.10	91	5.88	
9	Alfa	58-2	2.36	1.93	1.69	5.98	95	5.86	
10	DuPuits	59-22	2.44	1.97	1.76	6.17	94	6.02	
11	DuPuits	58-49	2.32	1.89	1.67	5.87	88	5.60	
12	V 66 (X) D.B.	59-7	1.99	1.29	1.14	4.42	84	4.10	
13	Narr. select - D.B.	59-17	2.42	1.68	1.44	5.55	88	5.25	
14	Vernal select - D.B.	59-18	2.32	1.60	1.30	5.22	89	4.96	
15	Ranger	59-21	2.08	1.57	1.26	4.91	91	4.72	
16	Medicago glutinosa	59-25	2.38	1.63	1.41	5.42	90	5.18	
17	Socheville	59-24	2.24	1.99	1.77	6.00	97	5.93	
18	Narragansett	59-19	2.44	1.74	1.42	5.61	92	5.40	
19	Narragansett	58-20	2.53	1.73	1.43	5.69	91	5.46	
20	Syn. A	58-1	2.38	1.60	1.34	5.32	87	5.01	
21	Syn. B	57-8	2.31	1.70	1.45	5.45	87	5.16	
22	Vernal	59-20	2.24	1.59	1.32	5.15	90	4.93	
23	Vernal	58-16	2.52	1.53	1.33	5.38	85	5.00	
24	High Seed Narr. Wsyom.	58-4	2.21	1.46	1.26	4.93	89	4.64	
25	High Seed Narr. Cal.	59-31	2.22	1.52	1.42	5.15	93	5.00	
Average									
F - Varieties			2.34	1.72	1.49	5.54			
L.S.D. (P=.05)			1.57*	2.06**	7.79**	8.77**			
C. V. (%)			.30	.17	.19	.46			
Ave. D.M. (%)			11.2	8.6	11.4	7.2			
			17.3%	18.4%	20.5				

Notes:
Favorable early season but very dry in July and Aug. Heavy nature of soil was an advantage. There was some lodging in heavy growth of 1st cut. Some grass in 1st cut - very little in last two. Greater vigor and more rank growth visibly for Flandria versus other Flemish types throughout summer. Good stands on all entries.

NEW YORK - Ithaca

Table 28.--1960 Data from 1958 Narragansett Seed Generation and Source Test - McGowan Field,

Ithaca, New York.									
Broadcast seeded May 1958. Randomized complete block design, 6 replications.									
Planting rate: 50 viable seed/square foot. Cutting management: 3 cuttings/season									
Random Number	Seed Class and Identity	N.Y. Seed Number	Yield - Tons per Acre (12% M)			% Grass			
			6/17	8/1	9/19		Total	6/17	8/17
1	High Seed Select - Wyo.	58-4	2.13	1.96	1.15	5.24	5.24	9	
2	Low Seed Select - Wyo.	58-5	2.20	2.12	1.31	5.64	5.64	8	
3	Breeders Seed, R.I. -1954	58-6	2.10	2.08	1.28	5.45	5.45	7	
4	Breeders Seed, R.I. -1957	58-7	2.04	2.13	1.24	5.40	5.40	4	
5	Fd. - Utah - 1953	58-9	2.10	2.06	1.29	5.46	5.46	4	
6	Fd. - Idaho - 1953	58-10	2.26	2.12	1.33	5.71	5.71	2	
7	Fd. - Wyo.-1956	58-22	2.25	2.10	1.29	5.64	5.64	10	
12	Fd. - Wyo.-1957	58-21	2.25	1.99	1.18	5.43	5.43	12	
8	Reg. Oreg. - 1957	58-8	2.15	2.04	1.34	5.53	5.53	6	
9	Reg. Idaho - 1957	58-11	2.35	2.06	1.30	5.71	5.71	8	
10	Reg. Idaho - 1957	58-13	2.07	2.09	1.26	5.42	5.42	9	
11	Reg. Idaho - 1957	58-12	2.20	2.00	1.27	5.46	5.46	9	
13	Reg. S.Dak. - 1957	58-15	2.10	2.22	1.26	5.58	5.58	9	
14	Cert. - 1957	58-19	2.24	1.99	1.23	5.47	5.47	6	
15	Cert. - 1957	58-20	2.03	2.00	1.23	5.27	5.27	6	
16	Cert. Idaho - 1956	57-50	2.32	1.96	1.29	5.58	5.58	5	
Average			2.18	2.06	1.27	5.50	5.50	7	
F - Entries			1.56 -	1.03 -	1.59 -	1.99 -	1.99 -		
L.S.D. (P = .05)			1.25	.20	.11	.28	.28		
C.V. %			9.0	8.5	7.8	4.6	4.6		
Ave. Breeders (2 lots)			2.07	2.10	1.26	5.42	5.42		
Ave. Fd. (4 lots)			2.21	2.07	1.27	5.56	5.56		
Ave. Reg. (5 lots)			2.17	2.08	1.29	5.54	5.54		
Ave. Cert. (3 lots)			2.19	1.98	1.25	5.43	5.43		

NEW YORK - Ithaca

Notes:

- 1- Entry No. 2 had three filler reps of 58-20. Entry No. 3 had one filler rep of 58-20.
- 2- Planting was virtually weed-free. Some volunteer timothy in first cutting.
- 3- Entries 7 and 12 are different years' production from the field where selections were made for seed production in 1957.
- 4- Performance of 1 and 12 believed associated with rather definite evidence for incidence of selfed seed set under field conditions.
- 5- F value closely approaches significance for total mean yield. Comparison of entries 1 and 2 (taking account of nature of the field plots involved) suggests a significant difference between bulks of open-pollinated seed progenies of high versus low seed set selections. This is probably the influence of selfed seed set fraction differences in the two bulk lots.

Table 29.--1960 Data from 1958 Flemish Alfalfa Seed Source Trial - West Lamkin

Field, Ithaca, New York		Yield - Tone/Acre (12% M)				
Broadcast seeded May 1958, 50 viable seed/square foot.						
Randomized complete block design; 4 replications.						
Cutting management: 3 cuttings/season						
Random Number	Entry	New York No.	6/10	7/21	9/2	Total
1	DuPuits (Fd.)	56-5	1.42	1.45	.89	3.76
2	DuPuits (Fd.)	57-1	1.55	1.49	.90	3.94
3	DuPuits (Fd.)	57-2	1.53	1.56	.89	3.97
4	DuPuits (Fd.)	57-3	1.47	1.48	.91	3.86
5	DuPuits (Fd.)	58-45	1.53	1.40	.79	3.72
6	DuPuits (Cert.)	58-48	1.52	1.50	.95	3.96
7	DuPuit (Cert.)	58-49	1.39	1.55	.97	3.91
8	DuPuits (Cert.)	#3416	1.52	1.64	1.05	4.21
9	DuPuits (Cert.)	58-46	1.43	1.48	.84	3.74
10	Alfa (Fd.)	58-44	1.51	1.52	.88	3.90
11	Alfa (Skandia)	58-52	1.46	1.58	.94	3.97
12	Alfa (Skandia)	58-2	1.51	1.45	.83	3.79
13	DuPuits (Cert.)	58-50	1.44	1.52	.93	3.89
14	Socheville - III.	58-51	1.43	1.59	1.10	4.12
* 15	Alfa (Skandia - III.)	58-53	1.56	1.50	1.00	4.06
* 16	Alfa (Skandia - III.)	58-54	1.50	1.62	1.03	4.15
Average			1.48	1.52	.93	
F - Varieties			.88-	1.25-	.99-	
L.S.D. (P = .05)			.11	.12	.17	
C. V. %			7.6	7.8	18.0	
Ave. D.M. %			19.9	21.1	27.5	

* 1st generation from Fd. in California

Notes: Larger than normal within trial variability in the last cutting - effects of drouth conditions and the 1958-59 winter. 1st and 2nd cutting growth good. No gross encroachment in this test; stands are good but total yields are rather disappointing. *No evidence of significant influence among cuts within varieties.*

NEW YORK - Canton

Table 30.--1960 Data from 1957 Alfalfa Variety Trial - Canton, New York.
Broadcast seeded April 1957. Randomized complete block design, 5 replications.
Planting rate: 50 viable seed/square foot. Cutting management: 3 cuttings/season.

Random Number	Entry	Seed Lot No.	Yield - Tons per Acre			Season Total	% Legume			Legume Fraction	
			1st cut 6/21	2nd cut 8/4	3rd cut 9/21		6/21	8/4	9/21		
1	Alfa - C.D.	57-51	2.13	1.23	.39	3.75	85	76	100	3.13	Notes:
2	Alfa - U.S.D.A.	57-56	2.47	1.21	.36	4.05	88	87	100	3.59	1. Some evidence of wilt
3	Alfa - Elite	57-52	2.28	1.44	.44	4.16	91	93	100	3.85	was showing in later cut-
4	DuPuits	57-53	2.25	1.47	.60	4.31	90	89	100	3.93	tings on susceptible
5	DuPuits	57-49	2.31	1.41	.44	4.15	87	82	100	3.61	varieties.
6	Cardinal	57-63	2.54	1.39	.52	4.45	89	89	100	4.02	2. Stand decreases most
7	Tourneur 501	57-57	2.28	1.30	.38	3.96	84	72	100	3.23	apparent on Flemish strains
8	G P B -2		2.40	1.79	.63	4.82	95	96	100	4.63	- these showed earlier than
9	Rambler	57-55	2.67	1.35	.44	4.46	92	71	100	3.85	those on Narragansett.
10	Lehontin	57-54	2.49	1.57	.62	4.68	92	99	100	4.47	This could reflect some
11	Ranger	57-59	2.35	1.71	.73	4.79	96	98	100	4.66	greater degree of winter
12	Purdue F	57-62	2.71	1.70	.63	5.04	94	96	100	4.81	injury in 58-59 which is
13	N.Y. "A" (A 300)	57-10	2.73	1.78	.73	5.24	93	98	100	5.01	now being expressed.
14	N.Y. "B" (A 301)	57-8	2.57	1.82	.78	5.18	95	99	100	5.02	3. N.Y. synthetics are out-
15	N.Y. "C" (A 302)	57-9	2.53	1.62	.61	4.77	93	99	100	4.57	standing--performance
16	N.Y. "A" (A 300)	155 seed	2.65	1.82	.63	5.10	98	98	100	5.01	parallels the companion test
17	N.Y. "B" (A 301)	155 seed	2.77	1.78	.77	5.32	99	97	100	5.24	of this on Middle Ogden
18	N.Y. "C" (A 302)	155 seed	2.56	1.58	.60	4.75	95	96	100	4.55	Field, Ithaca.
19	Vernal	33273	2.60	1.63	.69	4.91	93	97	100	4.69	
20	Vernal	57-48	2.42	1.51	.53	4.46	97	96	100	4.33	
21	Narragansett	57-50	2.50	1.42	.50	4.42	90	82	100	3.91	
22	Narragansett	57-58	2.31	1.43	.50	4.24	94	81	100	3.83	
	Average		2.48	1.54	.57	4.59	92	90	100	4.24	
	P - Varieties		2.56**	2.99**	2.69**	3.99**					
	L.S.D. (P = .05)		.31	.32	.24	.62					
	C.V. %		9.8	16.3	30.6	10.7					
	Ave. D.M. %		22.7	26.1	25.4						

Table 31.--1960 Data from 1959 Alfalfa Variety x Type of Culture Trial - Dryden, New York.
 Planting date: April 30, 1959. Split-plot design; 6 replications. Main plots = type of companion crop and treatment; split plots = alfalfa varieties and mixtures.

Random Number	1959 Seeding Treatment	Split Plot Treatments	Yield - Tons/A (12M)		% Legume	2 D.M. of Forage	
			6/28	8/18		6/28	8/18
1	Seeded	Alfa Alfalfa + Climax Tim.	2.58	1.11	40	28.4	32.1
2	Alone	DuPuits Alf. + Climax Tim.	2.72	1.18	26	28.9	30.8
3	(no oats)	DuPuits Alf. + Pennlate Or.	2.42	1.06	32	26.9	29.7
4	Harvested	DuPuits Alf. + Saratoga Br.	2.57	1.21	32	29.1	30.3
5	7/12/59	Narrag. Alf. + Climax Tim.	2.67	.99	22	28.1	31.1
6		Vernal Alf. + Climax Tim.	2.60	.92	26	28.8	31.8
7	Oat	Alfa Alfalfa + Climax Tim.	2.71	1.16	26	28.5	31.6
8	Companion Crop	DuPuits Alf. + Climax Tim.	2.66	1.25	26	26.8	31.5
9	Garry	DuPuits Alf. + Pennlate Or.	2.41	1.05	32	25.9	29.3
10	Harvested	DuPuits Alf. + Saratoga Br.	2.64	1.24	34	29.4	30.3
11	as silage	Narrag. Alf. + Climax Tim.	2.80	1.11	28	27.8	30.6
12	7/12/59	Vernal Alf. + Climax Tim.	2.70	.89	26	28.2	30.8
13	Oat	Alfa Alfalfa + Climax Tim.	2.66	1.21	38	26.2	29.2
14	Companion Crop	DuPuits Alf. + Climax Tim.	2.96	1.18	38	28.3	29.8
15	Clintonland	DuPuits Alf. + Pennlate Or.	2.27	1.01	38	25.7	29.8
16	Harvested	DuPuits Alf. + Saratoga Br.	2.62	1.23	48	27.7	29.3
17	as silage	Narrag. Alf. + Climax Tim.	2.79	1.07	28	26.9	30.3
18	7/12/59	Vernal Alf. + Climax Tim.	2.71	.99	24	28.2	31.0
19	Oat	Alfa Alfalfa + Climax Tim.	2.87	1.23	46	27.2	29.8
20	Companion Crop	DuPuits Alf. + Climax Tim.	2.63	1.17	38	26.9	31.1
21	Garry	DuPuits Alf. + Pennlate Or.	2.49	1.10	40	26.1	30.2
22	Harvested	DuPuits Alf. + Saratoga Br.	2.72	1.34	38	27.8	29.9
23	as grain	Narrag. Alf. + Climax Tim.	2.59	1.08	26	25.1	30.2
24		Vernal Alf. + Climax Tim.	2.60	1.00	30	26.1	30.3
25	Oat	Alfa Alfalfa + Climax Tim.	2.56	1.28	40	26.7	28.8
26	Companion Crop	DuPuits Alf. + Climax Tim.	2.58	1.40	42	26.4	29.5
27	Clintonland	DuPuits Alf. + Pennlate Or.	2.45	1.26	42	24.7	29.2
28	Harvested	DuPuits Alf. + Saratoga Br.	2.43	1.42	40	25.9	29.6
29	as grain	Narrag. Alf. + Climax Tim.	2.61	1.18	36	26.4	29.6
30		Vernal Alf. + Climax Tim.	2.71	1.17	26	27.2	29.6

Table 31.--1960 Data from 1959 Alfalfa Variety x Type of Culture Trial - Dryden, New York (Continued)

Average of 3 culture treatments Harvested entirely for forage	Mixtures	Yield - Tons/A (12% M)			Second Year of Culture	Ave.		Ave. % D.M. 8/18	
		Season				% D.M. 6/28			
		6/28	8/18	6/28		6/28	8/18		
	Alfa Alfalfa + Climax Tim.	2.68	1.20	3.87				38	
	DuPuits Alf. + Climax Tim.	2.71	1.24	3.95				34	
	DuPuits Alf. + Pennlate Or.	2.41	1.10	3.51				37	
	DuPuits Alf. + Saratoga Br.	2.60	1.29	3.88				38	
	Narrag. Alf. + Climax Tim.	2.69	1.09	3.78				28	
	Vernal Alf. + Climax Tim.	2.66	.99	3.66				26	
Culture Treatment	Total Returns - First Year of Culture Tons/D.M.	1960 Yield - Tons/Acre (12% M)			Ave. % D.M. 6/28		8/18		
		7/12/59	10/5/59	Total	6/28	8/18			
No oats	2.27	.54	2.81	2.59	1.08	3.67	36	28.4	31.0
Garry - Silage	3.06	.48	3.54	2.65	1.12	3.77	34	27.8	30.8
Clintonland - Silage	2.92	.48	3.40	2.67	1.12	3.78	43	27.2	29.9
Garry - Grain	(56 bu/acre)	.51	.51	2.65	1.15	3.80	44	26.5	30.2
Clintonland - Grain	(55 bu/acre)	.59	.51	2.56	1.28	3.84	45	26.2	29.4

Notes: (1) Oat seeding rate was 7 pecks. Grain yields were obtained by combine harvesting.

(2) Harvest date for grain was about August 8th. Stubble was removed after harvest. Surrounding field was harvested and stubble clipped after combining on plots was completed. Regrowth on silage plots is believed to have been clipped at this time resulting in rather severe and unnatural pressure on the seeding.

(3) For grain oat harvest, legume stands were only fair, but uniform. Dry September conditions minimized the opportunity for volunteer oat growth on combined plots and produced rather short fall growth on the alfalfa.

(4) First hay year management was not in favor of the Flemish strains; aftermath was reduced by late first cut and very dry mid-summer conditions. Quackgrass was a very big factor in performance. As indicated by composition estimates, encroachment was heavy. Seeding treatment effect on 1st hay year production was minimized by the re-clipping in 1st year, lack of volunteer oats from grain and the heavy growth of quack. Some general effects due to alfalfa variety are evident but the effect of companion mixture grasses was largely one of competition with quackgrass.

NEW YORK - Dryden

NORTH CAROLINA

A heavy infestation of *Stemphyllium* leafspot on the Mountain Research Station provided opportunity to evaluate certain strains and varieties for resistance (A-63 and A-104, tables 1 and 2). These data indicate a fairly high degree of resistance in DuPuits and N.C. Syn. F(56)1 which was selected from the Flemish type alfalfas.

Extremely dry weather on the Piedmont Research Station from June until September contributed to the low yields of all entries in test A-67 (table 3).

Data obtained from A-82 (table 6) continued to reveal increased persistence of N. C. MS A and MS B over check varieties under conditions of severe stem, root and crown rot infestation. The increased tolerance of MS A and MS B to the potato leafhopper was also again demonstrated.

NORTH CAROLINA - Laurel Springs

Table 32--Alfalfa variety grazing management study, A-63 Upper Mountain Research Station, Laurel Springs, N. C.

Seeded August 6, 1957. Randomized block, 4 replications.
Broadcast plots 4' x 10'. Seeding rate 25 lbs. germinable
seed per acre.

Entry	Stemphyllium leaf spot ^{1/} 10/17
Atlantic	8.2
Buffalo	8.5
DuPuits	3.8
Narragansett	7.2
Rambler	9.0
Rhizoma	7.8
Vernal	7.8
Williamsburg	8.2
N.C. Syn. A(51)5	6.8
N.C. Syn. B(51)7	7.5
N.C. Syn. D(51)12	8.5
N.C. Syn. F(56)1	3.5

^{1/} Scored 1-9. 1 = none, 9 = severe defoliation.

NORTH CAROLINA - Laurel Springs

Table 33-A-104. Alfalfa strain test. Laurel Springs, N. C.

Seeded Aug. 3, 1960. 5' x 20' plots. 21 lbs. germinable seed per acre. Randomized block. 4 replications.

Entry	Stemphyllium ^{1/} 10/17/60
Atlantic	8.0
Buffalo	8.0
DuPuits	2.0
Maliani	8.0
Narragansett	6.0
Orchies	6.8
Williamsburg	8.2
N.C. Syn. E(58)	5.0
N.C. Syn. F(56)1	2.0
N.C. Syn. G(57)1	3.8
N.C. Syn. G(57)2	3.2
N.C. Syn. G(57)3	3.5
N.C. Syn. G(57)4	3.0
N.C. M.S.A (57)	5.0
N.C. M.S.A (59)	4.0
N.C. M.S.B (55)	4.5
N.C. M.S.B (57)	4.8
N.C. M.S.B (59)	4.8
L.S.D. (.05)	1.0
L.S.D. (.01)	1.4
CV (%)	15

1/ Scored 1-9; 1 = most resistant, 9 = severely defoliated.

NORTH CAROLINA - Salisbury

Table 34. Alfalfa strain test A-67 - Piedmont Research Station, Salisbury, N. C.

Seeded Aug. 23, 1957. Randomized blocks, 4 replications. Broadcast plots 5' x 20'.
Seeding rate 25 lbs. germinable seed per acre.

Entry	Source	1960 Hay Yield - Tons/acre				Yield Total 1958-60	Fall Growth 9/27/60	Stand 1/ Depletion 2/ 4/17/60
		5/12	6/9	7/15	8/22			
Atlantic	Wyatts	0.99	0.63	0.49	0.26	2.37	10.51	32.0
Buffalo	33557	0.79	0.41	0.36	0.27	1.83	9.58	37.5
Williamsburg	33204	0.85	0.63	0.66	0.33	2.47	10.49	32.2
N.C. Syn. B(51)7		1.05	0.65	0.46	0.30	2.46	11.23	22.0
N.C. Syn. D(51)10		1.11	0.83	0.71	0.37	3.02	12.10	19.2
N.C. Syn. D(51)12		1.01	0.70	0.62	0.35	2.68	11.71	23.2
N.C. Syn. F(56)1		1.01	0.77	0.73	0.38	2.89	12.31	40.8
N.C. Syn. F(56)2		0.87	0.71	0.60	0.33	2.51	11.13	17.8
DuPuits	Wyatts	0.88	0.74	0.61	0.27	2.50	11.50	42.0
Indiana Syn F		0.85	0.50	0.47	0.29	2.11	9.45	22.0
Indiana Syn C		0.92	0.61	0.53	0.29	2.35	10.16	17.8
501 Tourneur	PI237231	0.86	0.65	0.57	0.34	2.42	11.58	51.2
Chartainvilliers	PI188795	0.91	0.74	0.61	0.31	2.57	11.02	27.8
Ile-de-France	PI188797	0.88	0.73	0.57	0.30	2.48	10.53	21.5
W-268	PI188798	0.78	0.55	0.54	0.31	2.18	11.23	52.2
N.C. M.S.A. (57)		1.06	0.71	0.57	0.29	2.63	10.83	23.8
N.C. M.S.B. (57)		1.11	0.83	0.71	0.34	2.99	12.01	27.8
L.S.D. (.05)						0.62		13.1
L.S.D. (.01)						n.s.		17.5
C.V. (%)						17		31

1/ Scored 1-9; 1 = most growth.

2/ Number of empty 4 inch squares in 12 square feet.

Table 35--A-86, alfalfa strain test, Pittsboro, N. C.

Seeded Sept. 4, 1959. 3 row plots, 9" between rows, 1' between plots. Plot 15' long. Randomized block design, 6 replications.									
Entry	1960 yields, tons/acre			Spring growth 1/4/7	Re-covery 1/5/23	Leafhopper yellowing 2/7/13	Total		
	5/5	6/8	7/13				8/18		
Tuna	1.16	0.70	0.69	1.07	3.62	6.2	4.2	3.3	3.3
DuPuits	1.52	0.94	0.84	1.18	4.48	1.8	2.0	3.7	3.7
Sel. 202	1.17	0.81	0.84	1.19	4.01	1.3	1.0	6.0	6.0
Maliani	1.02	0.63	0.66	1.05	3.36	2.0	1.5	7.3	7.3
Atlantic	1.35	0.74	0.74	1.16	3.99	3.7	3.7	2.3	2.3
Williamsburg	1.39	0.81	0.90	1.27	4.37	3.3	3.0	2.3	2.3
L.S.D. (.05)					0.16	0.6	0.5		
L.S.D. (.01)					0.22	0.9	0.7		
CV (%)					3	18	18		

1/ Scored 1-9 with 1 = most growth.

2/ Scored 1-9 with 1 = no yellowing.

NORTH CAROLINA - Pittsboro

Table 36:-Alfalfa strain test A-81 - Pittsboro, N. C.

Seeded Sept. 3, 1958. Randomized block, 6 replications. 3 row plots 15' long, 9" between rows, 12" between plots. Seeding rate 6 gms. germinable seed per plot.							
Entry	1960 Hay yield - tons/acre				Total	1959 Yield	Recovery ^{1/} 5/23/60
	5/6	6/6	7/12	8/17			
N.C. Syn. A(51)5	0.86	0.60	0.88	1.03	3.37	3.49	2.8
N.C. Syn. B(51)6	0.84	0.62	0.94	1.05	3.44	3.07	2.7
N.C. Syn. B(51)7	0.83	0.55	0.85	1.03	3.26	3.64	3.7
N.C. Syn. D(51)10	0.91	0.58	0.86	1.06	3.41	2.97	3.5
N.C. Syn. D(51)12	0.94	0.64	0.92	1.16	3.66	3.50	3.2
N.C. Syn. E(57)	0.85	0.55	0.76	0.94	3.10	3.28	3.7
N.C. Syn. F(56)1	0.83	0.62	0.83	0.82	3.10	3.37	2.0
N.C. Syn. F(56)2	0.65	0.57	0.88	1.14	3.24	3.00	1.8
N.C. Syn. G(57)1	0.74	0.53	0.78	0.87	2.92	3.43	3.0
N.C. Syn. G(57)2	0.85	0.62	0.85	0.90	3.22	3.34	2.2
N.C. Syn. G(57)3	0.91	0.69	0.90	0.99	3.49	3.48	2.5
N.C. Syn. G(57)4	0.87	0.61	0.87	1.00	3.35	3.48	2.0
3468 Stoneville Polycross #1	0.71	0.50	0.80	1.08	3.09	2.97	3.5
3485 Kansas Syn. Bl	0.65	0.48	0.82	0.91	2.86	3.02	4.0
Atlantic	0.84	0.58	0.75	0.89	3.05	3.19	4.0
Buffalo	0.74	0.45	0.70	0.79	2.68	2.94	4.2
Williamsburg	0.70	0.45	0.75	0.92	2.82	3.18	4.3
DuPuits	0.83	0.62	0.78	0.94	3.17	3.31	2.2
N.C. M.S.A. (57)	1.01	0.59	0.86	1.00	3.46	2.97	3.7
N.C. M.S.B. (57)	0.97	0.64	0.82	0.88	3.32	3.32	3.3
L.S.D. (.05)					n.s.	.41	1.2
L.S.D. (.01)					n.s.	.54	1.6
C.V. (%)					18	11	34

^{1/} Scored 1-9; 1 = most.

Table 37.-A-82, alfalfa strain test comparing 7th cycle of phenotypic recurrent selection in two groups (M.S. A and M.S. B) with check varieties.

Transplanted April 1, 1959. Randomized block, 14 replications. Plants spaced on 42" centers, 12 plants per plot.									
Entry	Plant 1/ width 4/25	Plant 1/ height 4/25	Re- covery 5/24	Plant 1/ width 6/10	Plant 1/ height 6/10	Leafhopper yellowing 7/25	Stand 4/25	Stand 11/14	
N.C. M.S. A(58)	22.4	17.5	9.4	23.6	22.7	4.9	149	120	
N.C. M.S. B(58)	22.6	17.2	9.9	24.4	23.4	4.7	148	119	
Atlantic	22.8	16.0	9.7	23.6	21.9	6.8	131	89	
Buffalo	19.2	17.0	10.9	21.8	23.6	6.2	135	110	
Williamsburg	21.8	17.4	11.7	24.4	24.2	6.5	142	99	
DuPuits	19.0	18.0	12.2	21.8	25.7	6.8	94	41	
LSD (.05)	1.41	1.12	0.58	1.45	0.92				
LSD (.01)	1.87	n.s.	0.77	1.93	1.23				
CV (%)	9	9	7	8	5				

1/ Measured in inches.

2/ Caused by potato leafhopper. Scored 1-9; 1 = no yellowing.

3/ Number of plants surviving out of 168 transplanted.

SOUTH CAROLINA - Clemson and Florence

Table 38.-- Performance of alfalfa varieties in South Carolina

Variety	Hay yields in tons per acre ^{1/}							2 and 3-year, 2-location averages
	1956	1957	Clemson 1958	Average	1956	Florence 1957	Average	
Socheville	2.22	4.87	4.58	3.89	4.38	4.12	4.25	4.07
Narragansett	2.60	4.81	4.35	3.92	4.24	3.99	4.12	4.02
Du Puits	2.23	4.95	4.35	3.84	4.26	4.15	4.21	4.03
Williamsburg	2.12	4.81	4.22	3.72	4.15	4.00	4.08	3.90
Oklahoma Common	2.24	4.79	4.47	3.83	4.25	3.72	3.99	3.91
Sandhill Common	1.98	4.59	4.32	3.63	3.84	4.15	4.00	3.82
Vernal	2.35	4.66	4.03	3.68	4.01	3.89	3.95	3.82
Ranger	2.22	4.47	4.00	3.56	4.07	3.95	4.01	3.79
Kansas Common	1.98	4.58	4.09	3.55	4.06	3.91	3.99	3.77
Caliverde	2.27	4.46	3.98	3.57	4.23	3.61	3.92	3.75
Buffalo	2.17	4.70	4.16	3.68	3.86	3.54	3.70	3.69
Atlantic	2.07	4.46	4.02	3.52	4.28	3.55	3.92	3.72
Indian	2.17	3.99	3.03	3.06	4.67	3.30	3.99	3.53
Arizona Common	1.94	4.81	4.04	3.60	3.72	3.22	3.47	3.54
African	1.97	3.57	2.68	2.74	4.48	3.15	3.82	3.28
NK-100	1.91	3.63	3.38	2.97	4.43	2.64	3.54	3.26

Least significant
difference
(5% level)

.40	.35	.37	-	.32	.36
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Coefficient of
variation

14%	6%	9%	-	6%	8%
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^{1/} Forage yields calculated on oven-dry basis.

SOUTH CAROLINA - Clemson and Florence

	<u>Clemson</u>	<u>Florence</u>
Date seeded	October 15, 1955	October , 1955
Size of plots	5' x 15' (harvested 3' x 13')	5' x 15' (harvested 2-2/3' x 14')
Plot design	5 x 5 balanced lattice	Randomized block
Number replicates	5	5
Rate of seeding	40 pounds broadcast	40 pounds broadcast
Fertilization before seeding (1955)	2-1/2 tons lime (July) 800 pounds 3-12-12 900 pounds superphosphate 50 pounds complete minor element frit	
(May 1957)	500 pounds 0-14-20 (with boron)	
(May 1958)	650 pounds 0-14-14 (with boron)	
Dates of harvesting (1956)	May 7, July 25	May 11, June 18 July 16, August 8
(1957)	April 30, June 11 July 10, September 12 November 5	April 24, May 29 June 18
(1958)	May 8, June 12, July 25, August 28	

NOT FOR PUBLICATION

LOWER MISSISSIPPI VALLEY UNIFORM ALFALFA TEST
(Arkansas, Louisiana, Mississippi and Missouri Cooperating)

1960 - Summary

Data from 7 locations and 3 states are included in this summary. All tests were located on delta or river bottom soils, ranging from sandy loam to very heavy clay. Five of the tests were seeded in the fall of 1958 and the other 2 were seeded in the fall of 1959. Hay yields and other pertinent data are presented separately for each of the 7 tests in the first 7 tables. In table 8, the average yields for the 7 locations are presented as the percent of the combined average yield of Buffalo and Ranger (checks).

The rank of the varieties with numerically greater yields than the average of the checks in descending order is as follows.

1. N.C. Syn. B(51)7
2. N.C. Syn. A(51)5
3. N.C. Syn. AB(57)
4. Ranger
5. Stoneville P.C.#1
6. Kansas Syn. B1(Cody).
7. N.C. Syn. D(51)12

Stoneville Buffalo Selection was equal to the average of the checks for the 5 locations where it was grown.

N.C. Syn. B(51)7 and N.C. Syn. A(51)5 also were the top yielding varieties in these tests in 1959.

Information in this summary was reported by:

Arkansas -- M. S. Offutt

Louisiana -- L. L. McCormick

Mississippi -- H. L. Johnson

Missouri -- E. L. Pinnell

Summarized by:

M. S. Offutt

Table 39.--Lower Mississippi Valley Uniform Alfalfa Variety Test # 1 - 1960

Location: Southeast Missouri Experiment Station, Sikeston, Missouri
 Design: Randomized block: 4 replications
 Established: September 11, 1958 on Dexter sandy loam.
 Soil Treatment: 5 feet by 20 feet
 Plot Size: 20 pounds of live, pure seed per acre.
 Seeding Rate: 4 times (May 21, June 20, July 22, and September 23, 1960)
 Harvested:

Variety	Hay yield in tons per acre (12% moisture)					2 yr. ave. 1959-60
	1st cut	2nd cut	3rd cut	4th cut	Total 1960	
Vernal	1.27	1.15	.64	.45	3.51	3.37
Buffalo	1.19	1.07	.72	.45	3.43	3.32
Ranger	1.25	1.34	.80	.34	3.73	3.54
Lakontan	1.24	1.09	.67	.40	3.40	3.02
Kansas Syn. B1 (Cody)	1.18	1.16	.75	.42	3.51	3.38
N.C. Syn. A (51)5	1.25	1.26	.77	.53	3.81	3.57
N.C. Syn B (51)7	1.27	1.33	.84	.38	3.82	3.73
N.C. Syn D(51)12	1.21	1.01	.69	.46	3.37	3.28
N.C. Syn. AB(57)	1.30	1.28	.76	.48	3.82	3.62
Stoneville P.C. #1	1.16	1.30	.80	.41	3.67	3.43
Stoneville Buffalo Sel.	1.31	1.15	.72	.38	3.56	3.23
Rhizoma	1.41	1.46	.84	.48	4.19	3.77
Teton	1.09	.89	.56	.37	2.91	2.61
Moapa	.60	.59	.51	.32	2.02	2.25
L.S.D. at .05 level						.57
L.S.D. at .01 level						.76

Table 40.--Lower Mississippi Valley Uniform Alfalfa Test #3 - 1960

Location: Red River Valley Experiment Station, Bossier City, Louisiana
 Design: Randomized block; 4 replications.
 Established: October 17, 1958 on Miller silty clay loam
 Soil Treatment: No fertilizer applied
 Plot Size: 5 feet by 20 feet
 Seeding Rate: 20 pounds of live, pure seed per acre.
 Harvested: 4 times (April 19, May 30, June 28 and August 5, 1960)

Variety	Hay yield in tons per acre (12% Moisture)						2 yr. ave. 59-60	
	1st		2nd		3rd			Total
	cut		cut		cut			
Buffalo	1.82	1.30	1.09	.65	4.86	5.32		
Stoneville P.C. #1	2.02	1.41	1.21	.82	5.46	5.30		
N.C. Syn. B(51)7	1.95	1.34	1.21	.75	5.25	5.56		
N.C. Syn. AB(57)	2.09	1.42	1.21	.75	5.47	5.52		
N.C. Syn. D(51)12	1.95	1.43	1.27	.86	5.51	5.54		
N.C. Syn. A(51)5	1.92	1.37	1.10	.71	5.10	5.29		
Stoneville Buffalo Sel.	1.88	1.30	1.10	.68	4.96	5.22		
Rhizoma	2.22	1.28	1.09	.71	5.30	5.04		
Ranger	2.03	1.47	1.05	.65	5.20	5.25		
Kansas Syn B1 (Cody)	2.07	1.49	1.25	.87	5.68	5.24		
Vernal	2.09	1.30	1.01	.59	4.99	4.94		
Lahontan	2.05	1.41	1.04	.67	5.17	5.11		
Moapa	1.50	1.28	1.08	.88	4.74	4.70		
L.S.D. at .05 level	N.S.	N.S.	N.S.	.23	N.S.			
L.S.D. at .01 level	N.S.	N.S.	N.S.	N.S.	N.S.			
C.V.	16.1%	10.3%	12.2%	16.0%	10.4%			

Table 41.--Lower Mississippi Valley Uniform Alfalfa Test #5 - 1960

Location: Northeast Branch Experiment Station, Keiser, Arkansas
 Design: Randomized block; 4 replications.
 Established: October 6, 1958 on Sharky clay (very heavy).
 Soil Treatment: 30-60-60 fertilizer per acre applied at time of seeding.
 Plot Size: 5 feet by 20 feet.
 Seeding Rate: 20 pounds of live, pure seed per acre.
 Harvested: 5 times (May 3, June 16, July 17, September 8 and October 21, 1960).

Variety	Hay yield in tons per acre (12% moisture)										Stand 1/ Vigor 2/
	1st cut	2nd cut	3rd cut	4th cut	5th cut	Total 1960	2yr.ave. 59-60				
Buffalo F.C. 34042	.60	1.20	.90	1.01	.35	4.06	4.28	67	5.5		
N.C. Syn. B(51)7	.77	1.22	.86	1.04	.42	4.31	4.49	72	5.3		
Lahontan F.C. 33718	.73	1.51	1.08	.78	.20	4.30	4.05	90	4.8		
Vernal F.C. 34104	.88	1.51	1.02	.84	.38	4.63	4.79	84	5.3		
Ranger F.C. 34043	.99	1.62	1.01	.90	.33	4.85	4.86	83	6.0		
N.C. Syn. A(51)5	1.07	1.65	.95	.96	.44	5.07	4.93	74	4.3		
N.C. Syn. D(51)12	.80	1.32	.95	1.04	.39	4.50	4.53	73	4.5		
Rhizoma F.C. 34035	.53	1.50	.94	.52	.00	3.49	3.31	86	6.3		
Stoneville P.C. #1	.77	1.49	.99	1.05	.41	4.71	4.79	78	4.8		
N.E. Syn. AB(57)	.72	1.45	1.05	1.03	.43	4.68	4.42	72	4.5		
Stoneville Buffalo Sel.	.78	1.50	1.06	1.05	.40	4.79	4.69	82	4.8		
Kansas Syn B1 (Cody)	.52	1.28	.90	1.04	.40	4.14	4.26	69	5.5		
L.S.D. at .05 level	.28	.29	N.S.	.17	.11	.59		12			
L.S.D. at .01 level	.38	N.S.	N.S.	.22	.15	.79		17			
C.V.	25.5%	14.0%	11.9%	12.2%	21.9%	9.0%		11.2%			

1/ Stand counts were made by the point quadrat method on May 17, 1960. One hundred points were counted per 5' x 20' plot 14 days after first cutting was made. Stand based on number of hits per 100 points.

2/ Spring vigor ratings based on scale of 1 to 9; 1= high vigor, 2= low vigor. Rated on April 20, 1960.

Table 42.--Lower Mississippi Valley Uniform Alfalfa Test # 6 - 1960

Location: Northeast Branch Experiment Station, Keiser, Arkansas

Design: Randomized block; 4 replications

Established: September 16, 1958 on Sharkey Clay loam (Medium soil).

Soil Treatment: 30-60-60 fertilizer per acre applied at time of seeding.

Plot Size: 5 feet by 20 feet.

Seeding Rate: 20 pounds of live, pure seed per acre.

Harvested: 5 times (May 3, June 14, July 18, September 7 and October 21, 1960)

Variety	Hay yield in tons per acre (12% Moisture)								Stand 1/ vigor 2/	Spring vigor 2/
	1st	2nd	3rd	4th	5th	Total	2yr.av.			
	cut	cut	cut	cut	cut	1960	59-60			
Stoneville P.C. #1	1.32	1.04	.98	.91	.38	4.53	5.40	85	5.3	
Stoneville Buffalo Sl.	1.39	1.13	1.06	.89	.40	4.87	5.46	87	5.3	
Buffalo	1.45	1.25	1.04	.98	.41	5.13	5.72	82	5.5	
N.C. Syn. AB(57)	1.52	1.21	1.00	.92	.43	5.08	5.46	82	5.5	
N.C. Syn. A(51)5	1.44	1.36	.97	.98	.48	5.23	5.89	86	4.8	
N.C. Syn. D(51)12	1.27	1.06	.90	.94	.36	4.53	5.35	83	5.5	
N.C. Syn. B(51)7	1.59	1.21	1.06	.97	.46	5.29	5.98	86	4.8	
Ranger	1.47	1.22	1.04	.95	.31	4.99	5.65	86	6.5	
Kansas Syn. B1 (Cody)	1.38	1.20	1.03	.90	.44	4.95	5.55	82	7.0	
Lahontan	1.37	1.21	.92	.67	.30	4.47	5.04	92	6.0	
Rhizoma	1.41	1.17	.93	.82	.00	4.33	4.76	90	6.8	
Vernal	1.49	1.15	.97	.85	.31	4.77	5.46	80	6.3	
L.S.D. at .05 level	.15	.14	N.S.	N.S.	.09	.36		N.S.		
L.S.D. at .01 level	.20	.19	N.S.	N.S.	.12	.43		N.S.		
C.V.	7.2%	8.2%	11.4%	13.9%	17.61%	5.1%		6.8%		

1/ Stand counts were made by the point quadrat method on May 17, 1960. One hundred points were counted per 5' x 20' plot 14 days after first cutting was made. Stand based on number of hits per 100 points.

2/ Spring vigor ratings based on scale of 1 to 9; 1= high vigor, 9 = low vigor, Rated on April 20, 1960.

Table 43.--Lower Mississippi Valley Uniform Alfalfa Variety Test #7-1960

Location: Southeast Branch Experiment Station, Kelso, Arkansas

Design: Randomized block; 4 replications.

Established: September 15, 1959 on Perry fine sandy loam.

Soil Treatment: 36-36-36 fertilizer per acre applied at time of seeding

Plot Size: 5 feet by 20 feet

Harvested: 5 times (May 4, June 8, July 21, September 9 and November 7, 1960)

Irrigation: 2 applications (one inch June 9 and one inch July 21, 1960).

Variety	Hay yield in tons per acre (12% moisture)					Stand 1/
	1st cut	2nd cut	3rd cut	4th cut	5th cut	Total 1960
Rhizoma	1.52	.84	.59	.98	.48	4.41
Vernal	1.42	.76	.60	1.32	.38	4.48
N.C. Syn. B(51)7	1.64	.94	1.11	1.27	.57	5.53
Lahontan	1.44	.81	.79	.70	.34	4.08
Rambler	1.39	.66	.77	.91	.36	4.09
Stoneville P.C. #1	1.47	.75	.75	1.10	.59	4.66
N.C. Syn. D(51)12	1.65	.83	.81	1.18	.61	5.08
Ranger	1.67	.81	.83	1.08	.41	4.80
N.C. Syn. A(51)5	1.60	.81	.68	1.22	.58	4.89
N.C. Syn. AB(57)	1.55	.60	.70	1.06	.51	4.62
Kansas Syn. B1	1.55	.72	.89	1.25	.53	4.94
Buffalo	1.44	.80	.88	1.20	.52	4.84
L.S.D. at .05 level	N.S.	.13	N.S.	.33	1.15	.65
L.S.D. at .01 level	N.S.	N.S.	N.S.	N.S.	.20	.88
C.V.	11.9%	11.9%	25.4%	20.9%	21.1%	9.5%

1/ Stand counts were made by the point quadrat method on May 18, 1960. One hundred points were counted per 5' x 20' plot 14 days after first cutting was made. Stands based on number of hits per 100 points.

Sprayed with 2 pounds of Toxaphene-DDT (2-1) Mixture on June 24, 1960 to control blister beetles.

Table 44.--Lower Mississippi Valley Uniform Alfalfa Variety Test #8 - 1960

Location: Purtle-plots, Southwest Branch Experiment Station, Hope, Arkansas

Design: Randomized block; 4 replications.

Established: September 4, 1958 on Houston Clay (Blackland soil).

Soil Treatment: 40-80-40 fertilizer per acre at time of seeding.

Plot Size: 5 feet by 20 feet

Seeding Rate: 20 pounds of live, pure seed per acre.

Harvested: 5 times (May 10, June 5, July 21, September 13 and October 20, 1960).

Variety	Hay yield in tons per acre (12% Moisture)							Stand 1/ 1/
	1st. cut	2nd. cut	3rd. cut	4th cut	5th cut	Total 1960	2yr. ave. 59-60	
Buffalo	1.46	1.23	.87	.86	.69	5.11	5.46	70
Stoneville P. C. #1	1.38	1.38	.93	.89	.69	5.27	5.44	85
N.C. Syn. B(51)7	1.63	1.40	.91	.85	.76	5.55	5.91	84
N.C. Syn. AB(57)	1.58	1.39	.83	.93	.65	5.38	5.66	77
H.C. Syn. D(51)12	1.41	1.31	.87	.96	.70	5.25	5.53	81
N.C. Syn. A(51)5	1.45	1.40	.83	.81	.57	5.06	5.49	82
Stoneville Buffalo Sel.	1.34	1.32	.91	.87	.67	5.11	5.48	80
Rhizoma	1.66	1.31	.81	.80	.50	5.08	5.05	83
Ranger	1.37	1.27	.99	.87	.63	5.13	4.74	76
Kandas-Syn.B1 (Cody)	1.00	1.13	.93	1.06	.81	4.93	5.45	66
Vernal	1.65	1.30	.82	.96	.65	5.38	5.21	74
Iahontan	1.02	1.10	.77	.96	.71	4.56	4.39	68
L.S.D. at .05 level	.24	.15	.12	N.S.	N.S.	.48-		6.1
L.S.D. at .01 level	.32	.20	N.S.	N.S.	N.S.	N.S.		8.2
C.V.	11.6%	7.9%	9.3%	15.2%	17.0%	6.5%		6.3%

1/ Stand counts were made by the point quadrat method on May 19, 1960. One hundred points were counted per 5' x 20' plot 9 days after first cutting was made. Stand based on number of hits per 100 points.

Table 45.--Lower Mississippi Valley Uniform Alfalfa Variety Test #9

Location: Beck plots, Southwest Branch Experiment Station, Hope, Arkansas
 Design: Randomized block; 3 replications.
 Established: September 16, 1959 on Portland clay (Red River bottom soil)
 Soil Treatment: 40-80-40 fertilizer per acre on September 3, 1958 (It was necessary to reseed in 1959). *
 Plot Size: 5 feet by 20 feet
 Harvested: 5 times (May 12, June 6, July 21, September 26 and October 20, 1960).

Variety	Hay yield in tons per acre (12% moisture)						Stand 1/
	1st cut	2nd cut	3rd cut	4th cut	5th cut	Total 1960	
Rhizoma	.63	.57	.52	.39	.35	2.46	78
Vernal	.67	.74	.64	.46	.37	2.88	68
N.C. Syn. B(51)7	.57	.68	.89	.59	.47	3.20	59
Lahontan	.68	.65	.65	.42	.35	2.75	81
Rambler	.59	.65	.55	.34	.34	2.47	68
Stoneville P.C. #1	.63	.75	.65	.55	.46	3.04	75
N C. Syn D(51)12	.68	.71	.62	.47	.40	2.88	75
Ranger	.67	.77	.55	.47	.35	2.81	75
N.C. Syn A(51)5	.69	.72	.55	.50	.43	2.89	64
N.C. Syn. AB(57)	.60	.64	.57	.46	.34	2.61	55
Kansas Syn. B1	.71	.72	.64	.62	.57	3.26	68
Buffalo	.59	.70	.54	.60	.43	2.86	75
L.S.D. at .05 level	N.S.	.13	N.S.	.13	.12	.34	N.S.
L.S.D. at .01 level	N.S.	N.S.	N.S.	.18	N.S.	.47	N.S.
C.V.	16.6%	8.1%	20.6%	16.2%	17.9%	7.1%	12.4%

1/ Stand counts were made by the point quadrat method on May 19, 1960. One hundred points were counted per 5' x 20' plot 7 days after first cutting was made. Stands were based on number of hits per 100 points.
 * Seeded at rate of 20 pounds of live, pure seed per acre.

Table 46.-- Summary of Lower Mississippi Valley Uniform Alfalfa Test - 1960

Locations: Sikeston, Mo.; Bossier City, La.; Keiser, Kelso, and Hope, Arkansas

Design: Randomized block; 4 replications.

Established: Seeding dates, soil type, and fertilizer applications indicated in the table for each individual test.

Plot Size: 5 feet by 20 feet

Seeding Rate: 20 pounds of live pure seed per acre.

Hay yield in tons per acre (12% moisture)												
Variety	Sikeston-1		Bossier-3		Keiser-5		Keiser-6		Kelso-7		Average 7 locations 1960	Percent of Checks 1/ 98
	Mo. 4 cuts	City, La. 4 cuts	Ark. 5 cuts	Ark. 5 cuts	Ark. 5 cuts	Ark. 5 cuts	Ark. 5 cuts	Ark. 5 cuts	Ark. 5 cuts			
Buffalo	3.43	4.86	4.06	5.13	4.84	5.11	2.86	4.33	4.50	4.33	98	
Ranger	3.73	5.20	4.85	4.99	4.80	5.13	2.81	4.50	4.50	4.50	102	
Lahontan	3.40	5.17	4.30	4.47	4.08	4.56	2.75	4.10	4.10	4.10	93	
Vernal	3.51	4.99	4.63	4.77	4.48	5.38	2.88	4.38	4.38	4.38	99	
Kansas Syn. B1 (Cody)	3.51	5.68	4.14	4.95	4.94	4.93	3.26	4.49	4.49	4.49	102	
N.C. Syn. A(51)5	3.81	5.10	5.07	5.23	4.89	5.06	2.89	4.58	4.58	4.58	104	
N.C. Syn. B(51)7	3.82	5.25	4.31	5.29	5.53	5.55	3.20	4.71	4.71	4.71	107	
N.C. Syn. D(51)12	3.37	5.51	4.50	4.53	5.08	5.25	2.88	4.45	4.45	4.45	101	
N.C. Syn. AB(57)	3.82	5.47	4.68	5.08	4.62	5.38	2.61	4.53	4.53	4.53	102	
Stoneville P.C. #1	3.67	5.46	4.71	4.63	4.66	5.27	3.04	4.49	4.49	4.49	102	
Stoneville Buffalo Sel. 2/	3.56	4.96	4.79	4.87		5.11		4.65	4.65	4.65	100	
Rhizoma	4.19	5.30	3.49	4.33	4.41	5.08	2.46	4.18	4.18	4.18	95	
Moapa 3/	2.02	4.74						3.38	3.38	3.38	78	
Teton 4/	2.91							2.91	2.91	2.91	81	
Rambler					4.09		2.47					
L.S.D. at .05 level	.57	N.S.	.59	.36	.65	.48	.34					
L.S.D. at .01 level	.76	N.S.	.79	.48	.88	N.S.	.47					
C.V.		10.4%	9.0%	5.1%	9.6%	6.5%	7.1%					
Combined average yield of Buffalo and Ranger used as check for relative yield comparisons (4.42 tons per acre).												
Grown only at five locations (check equivalent = 4.65 tons per acre).												
Grown only at two locations (check equivalent = 4.31 tons per acre).												
Grown only at one location (Check equivalent = 3.58 tons per acre).												

1/ Combined average yield of Buffalo and Ranger used as check for relative yield comparisons (4.42 tons per acre).

2/ Grown only at five locations (check equivalent = 4.65 tons per acre).

3/ Grown only at two locations (check equivalent = 4.31 tons per acre).

4/ Grown only at one location (Check equivalent = 3.58 tons per acre).

ALFALFA VARIETY YIELD TRIALS-1961

ARKANSAS

Rainfall for the 6-month period, April 1 to October 1, was above the long-time average in all areas of the state, except the northeastern and east central parts. A total of 40 inches of rain, or almost 14 inches more than the long-time average, fell during this period at the Main Agricultural Experiment Station, located near Fayetteville in northwestern Arkansas. Drought periods of sufficient length to reduce alfalfa yields occurred only in the upper Delta during 1961.

Temperatures averaged from 3 to 5° F below the long-time average from April through September over the entire state. Except for a period in early May when several light frosts occurred in northern Arkansas, temperatures generally were favorable for the growth of alfalfa throughout the growing season.

The *Stagonospora-Leptosphaeria* leaf spot-crown rot complex was rather severe in localized areas in late June and early July. Common leaf spot (*Pseudopeziza medicaginis*) and downy mildew (*Peronospora trifoliorum*) were reported over much of the state but appeared to be of only minor importance.

Pea aphids caused some damage to the first cutting of alfalfa in most sections of the state where control measures were not taken. Various small green leafhoppers, generally the potato leafhopper but also including several other species of similar appearance, caused severe yellowing of plants over wide areas of the state. The spotted alfalfa aphid, the three-cornered alfalfa hopper, and the variegated cutworm, though present in many areas, caused damage of economic importance only in localized situations.

Alfalfa varieties recommended in Arkansas in 1961 are as follows:

Buffalo and Ranger, in that order, are recommended for the entire state.

Vernal is recommended for the upland soils of northern and western Arkansas.

Lahontan is recommended for the heavy clay Delta soils.

Cody and Cherokee probably will be recommended for the entire state in 1962.

NOT FOR PUBLICATION

Table 48.--Alfalfa Synthetic Variety Yield Test - 1961

Location: Block 37, Agronomy Farm, Fayetteville, Arkansas.

Design: Randomized block; 4 replications.

Established: September 20, 1955 on Waynesboro silt loam.

Soil Treatment: 40-80-80 fertilizer and 2 ton lime per acre at time of seeding. Topdressed with 25-50-100 fertilizer per acre on February 28, 1957, 0-30-60 fertilizer per acre on March 21, 1958, 0-60-30 fertilizer per acre on February 27, 1959, 0-100-150 fertilizer and 20 pounds of boron per acre on March 23, 1960, and 0-60-180 fertilizer and 20 pounds of boron per acre on February 17, 1961.

Plot Size: 5 feet by 20 feet.

Seeding Rate: 20 pounds of live, pure seed per acre.

Harvested: 5 times (May 10, June 13, July 17, August 17 and October 24, 1961).

Variety	Hay yield in tons per acre (12% moisture)										Percent leaves ² /Spring				Recovery after cutting 4/
	1st		2nd		3rd		4th		5th		Total		5-yr. ave.		
	cut	cut	cut	cut	cut	cut	cut	cut	cut	cut	1961	57-61	1961	57-61	3/
A-225 Syn. 4	1.53	1.09	.95	.80	.66	.66	.66	.66	.66	.66	5.03	4.24	43.9	50.7	5.1
Indiana Syn. "F" F.C. 33188	1.39	1.15	.99	.73	.69	.69	.69	.69	.69	.69	4.95	4.56	47.3	50.8	5.8
Vernal F.C. 31983	1.38	1.23	1.02	.79	.70	.70	.70	.70	.70	.70	5.12	4.50	44.3	49.6	6.0
A-253 Syn. 1	1.41	1.29	1.13	.77	.60	.60	.60	.60	.60	.60	5.20	4.47	48.2	51.6	5.9
Buffalo F.C. 32984	1.38	1.20	1.15	.91	.64	.64	.64	.64	.64	.64	5.28	4.52	44.5	49.2	5.0
A-224 Syn. 3	1.35	1.01	.88	.72	.59	.59	.59	.59	.59	.59	4.55	3.97	50.3	52.1	7.0
A-248 (Grandfield)	1.69	1.27	1.17	.74	.58	.58	.58	.58	.58	.58	5.45	4.59	43.5	49.2	5.3
A-204 Syn. 4	1.58	1.19	1.07	.80	.67	.67	.67	.67	.67	.67	5.31	4.55	50.1	52.3	5.6
A-223 F.C. 24993	1.61	1.12	1.01	.86	.67	.67	.67	.67	.67	.67	5.27	4.40	47.3	51.0	5.4
Ranger	1.35	1.12	1.22	.81	.54	.54	.54	.54	.54	.54	5.04	4.16	46.1	50.9	5.4
L.S.D. at .05 level	N.S.	N.S.	.15	.11	.08	.08	.08	.08	.08	.08	N.S.		10.7	4.4	
L.S.D. at .01 level	N.S.	N.S.	.21	N.S.	.11	.11	N.S.	.11	N.S.	.11	N.S.		14.5	N.S.	
C.V.	11.4%	10.0%	10.0%	9.9%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	7.0%		11.9%	6.4%	

1/ Stand counts were made by the point quadrat method on May 22, 1961. One hundred points were counted per 5' x 20' plot 12 days after the first cutting was made. Stand based on number of hits per 100 points.

2/ Percent leaves based on samples of 40 stems per plot (June 13, 1961).

3/ Spring vigor based on scale of 1 to 9; 1 = high vigor, 9 = low vigor. Rated April 10, 1961.

4/ Recovery after cutting based on scale of 1 to 9; 1 = rapid recovery, 9 = low recovery. Rated on May 24, 14 days after the first cutting.

NOT FOR PUBLICATION

Table 49.---Alfalfa Variety Yield Test (Miscellaneous) - 1961

Location: Block 37, Agronomy Farm, Fayetteville, Arkansas.
 Design: Randomized block; 4 replications.
 Established: March 16, 1961.

Soil Treatment: 0-40-120 fertilizer per acre at time of seeding.
 Plot Size: 5 feet by 20 feet.

Seeding Rate: 20 pounds of live, pure seed per acre.

Harvested: 4 times (June 15, July 25, September 8, and October 25, 1961).

Variety	Hay yield in tons per acre (12% Moisture)					Percent leaves			Percent crude protein			Leaf-hopper rating			Seeding vigor			Fall vigor			Recovery after cutting		
	1st cut	2nd cut	3rd cut	4th cut	Total 1961	Stand 1/	2/	3/	4/	5/	6/	7/	8/	9/	10/	11/	12/	13/	14/	15/	16/	17/	18/
Cherokee	.96	.83	.83	.75	3.37	60	55.8	21.2	3.4	5.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Maliana	.93	.65	.60	.47	2.65	77	61.9	18.6	7.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vernal	1.17	.95	.85	.51	3.48	75	56.2	20.0	3.6	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Flandria	.68	.70	.63	.61	2.62	48	58.7	19.2	4.5	4.5	3.6	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
Stoneville P.C. #1	.91	.68	.64	.59	2.82	79	56.3	19.3	5.0	4.1	4.8	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
North Carolina Syn. E	.76	.77	.72	.59	2.84	50	58.1	20.5	4.0	5.9	5.4	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
L.S.D. at .05 level	N.S.	N.S.	.16	.17	N.S.	13.2	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
L.S.D. at .01 level	N.S.	N.S.	N.S.	N.S.	N.S.	18.3	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
C.V.	28.2%	18.7%	14.5%	18.8%	19.3%	13.5%	5.1%	7.5%															

1/ Stand counts were made on June 29, 1961. One hundred points were counted per 5' X 20' plot 14 days after first cutting was made. Stand based on number of hits per 100 points.

2/ Percent leaves based on samples of 40 stems per plot (June 14, 1961).

3/ Crude protein based on percent nitrogen X 6.25 (Lindner's Method); Samples collected June 14, 1961.

4/ Leafhopper ratings based on scale of 1 to 9; 1 = no yellowing, 9 = severe yellowing. Rated July 17, 1961.

5/ Seedling vigor based on scale of 1 to 9; 1 = high vigor, 9 = low vigor. Rated May 9, 1961.

6/ Fall vigor based on scale of 1 to 9; 1 = high vigor, 9 = low vigor. Rated September 26, 1961.

7/ Recovery after cutting based on scale of 1 to 9; 1 = rapid recovery, 9 = slow recovery. Rated on June 29, 1961, 14 days after first cutting was made.

NOT FOR PUBLICATION

Table 50.--Lower Mississippi Valley Uniform Alfalfa Variety Test #6-1961

Location: Northeast Branch Experiment Station, Keiser, Arkansas.

Design: Randomized block; 4 replications.

Established: September 16, 1958 on Sharkey clay loam (Medium soil).

Soil Treatment: 30-60-60 fertilizer per acre at time of seeding.

Plot Size: 5 feet by 20 feet.

Seeding Rate: 20 pounds of live, pure seed per acre.

Harvested: 4 times (May 5, June 13, July 6, and August 8, 1961).

Variety	Hay yield in tons per acre (12% moisture)							Stand 1/ 1/	Spring vigor 2/ 2/	Recovery after cutting 3/ 3/
	1 st. wt	2 nd. cut	3 rd. cut	4 th. cut	Total 1961	3-yr.ave. 59-61				
Stoneville P.C. #1	1.58	1.43	.51	.77	4.29	5.03	60	5.0	5.0	4.6
Stoneville Buffalo Sel.	1.47	1.39	.32	.66	3.84	4.92	58	5.3	5.4	5.4
Buffalo	1.63	1.41	.39	.76	4.19	5.21	55	5.0	5.0	5.0
N.C. Syn. AB(57)	1.73	1.46	.41	.71	4.31	5.08	62	4.8	5.3	5.3
N.C. Syn. A(51)5	1.97	1.52	.42	.73	4.64	5.47	58	4.0	4.8	4.8
N.C. Syn. D(51)12	1.20	1.25	.31	.62	3.38	4.69	56	4.5	5.0	5.0
N.C. Syn. B(51)7	1.59	1.57	.36	.69	4.21	5.39	61	4.5	4.9	4.9
Ranger	1.81	1.52	.33	.76	4.42	5.24	67	5.3	5.5	5.5
Kansas Syn. B1(Cody)	1.02	.99	.26	.79	3.06	4.72	51	5.3	5.3	5.3
Lahontan	1.86	1.49	.45	.66	4.46	4.85	60	5.0	4.0	4.0
Rhizoma	1.65	1.58	.26	.54	4.03	4.52	67	6.5	6.0	6.0
Vernal	2.20	1.55	.19	.55	4.49	5.14	59	6.0	6.0	6.0
L.S.D. at .05 level	.60	.27	N.S.	N.S.	.94		N.S.			
L.S.D. at .01 level	N.S.	.37	N.S.	N.S.	N.S.		N.S.			
C.V.	25.8%	13.3%	36.9%	18.3%	15.8%		13.2%			

1/ Stand counts were made by the point quadrat method on April 12, 1961. One hundred points were counted per 5' x 20' plot. Stand based on number of hits per 100 points.

2/ Spring vigor ratings based on scale of 1 to 9; 1 = high vigor, 9 = low vigor. Rated April 3, 1961.

3/ Recovery after cutting based on scale of 1 to 9; 1 = rapid recovery, 9 = slow recovery. Rated on June 26, 1961, 13 days after second cutting.

NOT FOR PUBLICATION

Table 51.-- Lower Mississippi Valley Uniform Alfalfa Variety Test #7-1961

Location: Southeast Branch Experiment Station, Kelso, Arkansas.
 Design: Randomized block; 4 replications.
 Established: September 15, 1959 on Hebert silt loam.
 Soil Treatment: 36-36-36 fertilizer per acre applied at time of seeding. Topdressed with 0-40-80 fertilizer per acre April 1, 1961.
 Plot Size: 5 feet by 20 feet, and seeded at rate of 20 pounds of live, pure seed per acre.
 Harvested: 4 times (May 5, June 13, July 25, and September 22, 1961).

Variety ^{1/}	Hay yield in tons per acre (12% moisture)				Total 1961	2-yr. ave. 60-61	Stand 2/	Spring vigor 3/
	1 st. cut	2 nd. cut	3 rd. cut	4 th. cut				
Rhizoma	.66	.78	1.56	.84	3.84	4.13	72	6.4
Vernal	.62	.75	1.17	.57	3.11	3.80	40	6.0
N.C. Syn. B(51)7	.90	.96	1.70	.97	4.53	5.03	73	4.3
Lahontan	.58	.75	1.56	.72	3.61	3.85	49	5.6
Rambler	.00	.00	.00	.00	.00	---	32	8.0
Stoneville P.C. #1	.83	.86	1.81	1.04	4.54	4.60	83	4.5
N.C. Syn. D(51)12	.70	.83	1.74	.83	4.10	4.59	59	4.8
Ranger	.53	.60	1.34	.57	3.04	3.92	38	6.0
N.C. Syn. A(51)5	.89	.84	1.53	1.01	4.27	4.58	83	4.4
N.C. Syn. AB(57)	.77	.83	1.30	.75	3.65	4.14	66	4.9
Kansas Syn. Bl(Cody)	.69	.81	1.62	.72	3.84	4.39	57	5.1
Buffalo	.65	.84	1.33	.60	3.42	4.13	57	5.1
L.S.D. at .05 level	.17	.13	N.S.	.15			15	
L.S.D. at .01 level	.22	.18	N.S.	.20			21	
C.V.	16.1%	11.5%	22.4%	13.4%			17.9%	

1/ Rambler was not harvested in 1961 because of poor stands in two replications.

2/ Stand counts were made by the point quadrat method on June 27, 1961. One hundred points were counted per 5' x 20' plot 14 days after second cutting was made. Stand based on number of hits per 100 points.

3/ Spring vigor based on scale of 1 to 9; 1 = high vigor, 9 = low vigor. Rated April 4, 1961.

FLORIDA - Gainesville

Table 52.--Alfalfa variety test - 1961

Variety	F. C. No.	Yield/Pounds per Acre Oven-Dry Hay					Total	Rank
		3-9-61	5-9-61	6-19-61	7-17-61	8-25-61		
Indian	33584	1777	1965	823	1915	1260	7740	6
Zia	34734	1323	1136	390	1577	906	5332	9
Moapa	34733	1572	1709	907	1905	1158	7251	7
Arizona Chilean	33599	1892	1900	907	2140	1196	8035	2
Narrgansett	34631	1202	1431	578	1988	1337	6536	8
Hairy Peruvian	35461	2163	2006	704	1896	1046	7815	5
H-60 (Horner)	--	1973	1967	830	2099	1391	8260	1
African	35400	1758	2014	998	2082	1100	7953	3
Hairy Peruvian	local	1832	1912	934	2052	1173	7903	4

Plots: 7'x15' Reps:4 Harvests:5

Planting date: Oct. 3, 1960. Seeding rate 20 pound/A

Fertilizer: 0-10-20 at 830 pound/A plus 20 pound Borax Oct. 2, 1960
Topdressed February 7, 1961 with 0-10-20 at 750 pound/A

Test conducted on Biven's Arm area

GEORGIA - Experiment

Table 53.--Alfalfa variety test - 1961
Georgia Experiment Station
Experiment, Georgia

Yield of hay by dates of harvest and total					
USDA Number	Variety or strain	Dates of harvest			Total yield
		5-29 T/A	7-17 T/A	9-18 T/A	
F.C. 34,627	Vernal	1.80	1.35	.85	4.00
34,041	Williamsburg	1.78	1.27	.85	3.90
34,631	Narragansett	1.75	1.25	.80	3.80
34,035	Rhizoma	1.54	1.36	.80	3.70
P.I. 247,752	Socheville	1.56	1.23	.91	3.70
F.C. 35,243	Oklahoma common	1.55	1.20	.95	3.70
34,630	Du Puits	1.50	1.30	.90	3.70
N.C. Syn.	G(57)2	1.60	1.27	.83	3.70
N.C. Syn.	G(57)3	1.61	1.21	.88	3.70
F.C. 34,716	Atlantic	1.50	1.15	.95	3.60
34,629	Buffalo	1.50	1.15	.95	3.60
34,628	Ranger	1.45	1.05	1.00	3.50
N.C. Syn.	F(56)1	1.30	1.20	1.00	3.50
F.C. 34,510	New Mexico 11-1	1.50	1.10	.70	3.30
--	F D 100	1.40	1.16	.74	3.30
F.C. 34,736	Caliverde	1.50	1.00	.70	3.20
N.C. Syn.	E(58)	1.36	1.10	.74	3.20
F.C. 34,733	Moapa	1.30	1.00	.80	3.10
34,135	Rambler	1.52	.90	.68	3.10
34,734	Zia	1.49	.87	.54	2.90
35,234	Lahontan	1.32	.60	.48	2.40

C.V. - 12.7%

LSD

5%

.732

Notes: Seeded, Oct. 12, 1960. Twenty pounds seed per acre. Randomized blocks. Four replications. Plots 4' x 20'. Whole plots harvested, dried with hot air and weighed. Fertilizer, 500 lbs./A, 4-12-12 harrowed in before planting.

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Table 54.--Tons dry matter per acre of alfalfa varieties seeded
8/29/60 and harvested as hay during 1961

Variety	Accession No.	Date Harvested			Total
		5/30	7/11	8/23	
Atlantic	FC 34716	2.39	1.09	1.00	4.48
Buffalo	FC 34629	2.33	1.20	1.10	4.63
Lahonton	FC 35234	2.45	0.88	0.73	4.06
Narragansett	FC 34631	2.75	1.38	1.18	5.31
Ranger	FC 34628	2.27	0.96	0.87	4.10
Vernal	FC 34627	2.57	1.14	1.03	4.74
Tourneur 501	FC 34103	2.60	1.34	1.26	5.20
Orchies	99L1-180	3.07	1.33	1.10	5.50
FD-100	99L1-182	2.50	1.44	1.20	5.14
N.C.E.58	99L1-184	2.53	1.21	1.26	5.00
N.C.G. (57)3	99L1-186	2.53	1.38	1.29	5.20
Alfa	FC 34540	2.74	1.31	1.25	5.30
Dupuits	FC 34630	2.45	1.41	1.21	5.07
Moapa	FC 34733	1.41	0.78	0.80	2.99
Rambler	FC 34135	2.09	0.56	0.62	3.27
Teton	FC 34346	2.24	0.82	0.80	3.86
Williamsburg	FC 34041	2.37	1.24	1.24	4.85
Tourneur 505	PI 256004	2.80	1.49	1.22	5.51
Maliani	99L1-181	2.02	1.15	1.10	4.27
N.C.F. (56)1	99L1-183	2.53	1.54	1.37	5.44
N.C.G. (57)2	99L1-185	2.66	1.37	1.29	5.32
Cherokee	99L1-187	2.57	1.25	1.27	5.09
N 9502	09L1-194	2.40	1.30	1.12	4.82
N9503	09L1-190	2.54	1.00	0.97	4.51
N9-501	09L1-189	2.40	1.40	1.18	4.98
N9-500	09L1-191	2.40	1.31	1.11	4.82
N9-504	09L1-192	2.36	1.09	0.99	4.44
Dupuits(NK)	09L1-193	2.43	1.44	1.28	5.15
LSD .05		0.34	0.17	0.14	0.42
.01		0.45	0.22	0.18	0.54
CV %		12.3	12.2	11.1	13.1

MASSACHUSETTS - Feeding Hills

1960 Alfalfa Variety Tests A. B. C

- A. Location: Feeding Hills, Massachusetts
- B. Date of Seeding: August 24, 1960
- C. Seeding Rate: 16#/A, freshly inoculated
- D. Plot Size: 6' x 7'
- E. Replications: 5, RCBD
- F. Soil Type: Chicopee fine sandy loam
- G. Fertilizer: 1,100#/A 0-15-30 (split)

The spring growth was slow and erratic from area to area within plots and blocks. Appearances suggested soil compaction and/or incomplete inoculation might be involved. (Alfalfa had never been grown previously at the site.) Scattered plants, amount considered non-significant, were lost from sclerotina.

The first harvest was taken mid-June, at initial flowering, which is about two weeks later than normal. The second harvest was made July 24 and 25, and the third on September 5 and 6, giving a compressed harvest season and some depressing effect on yields, particularly on the slow-recovering varieties.

MASSACHUSETTS - Feeding Hills

Table 55.--1960 Alfalfa Variety Test A

Entry	Yield of Dry Matter in Tons/Acre				Leaf Spot* 8/28/60
	1st Harvest	2nd Harvest	3rd Harvest	1961 Total	
NY 60-22	2.39	1.45	.81	4.65	3.6
NY 60-18 (N.Y. Syn. A)	2.51	1.14	.79	4.44	4.4
NY 60-21	2.44	1.20	.72	4.36	3.8
DuPuits	2.37	1.20	.78	4.35	3.4
HLK	2.54	1.12	.63	4.29	5.4
Narragansett	2.50	1.06	.66	4.22	4.2
NY 60-19 (Cayuga)	2.09	1.19	.84	4.12	4.8
NY 60-20	2.30	1.05	.75	4.10	4.0
Rhizoma	2.20	1.22	.64	4.06	4.4
10-19	2.22	1.05	.75	4.02	5.0
WL 200	2.32	1.11	.56	3.99	6.0
Culver	2.42	.90	.65	3.97	4.6
WHA	2.41	.97	.58	3.96	5.4
Orchies	2.14	1.04	.71	3.89	4.8
WL 300	2.17	1.06	.62	3.85	5.6
9-19	1.94	1.11	.78	3.83	5.0
Cody	1.95	1.11	.76	3.82	4.4
Vernal	2.19	.94	.63	3.76	5.0
Buffalo	1.79	1.04	.76	3.59	4.8
Ranger	1.91	.94	.66	3.51	5.8
Rambler	1.91	.59	.58	3.08	5.2
Teton	1.74	.77	.46	2.97	5.0
LSD .05	.48	.24	.15	.63	
C.V. %	17.4	17.9	17.1	12.8	

* Score 1-9, 1=None, 9=Leaves brown and lost

MASSACHUSETTS - Feeding Hills

Table 56.--1960 Alfalfa Variety Test B

<u>Entry</u>	<u>Yield of Dry Matter in Tons/Acre</u>				<u>Leaf Spot 8/28/60</u>
	<u>1st Harvest</u>	<u>2nd Harvest</u>	<u>3rd Harvest</u>	<u>1961 Total</u>	
Socheville	2.90	1.77	.85	5.52	4.2
DuPuits	2.83	1.74	.91	5.48	4.4
Alfa	2.91	1.67	.86	5.44	4.0
Orchies	3.05	1.60	.65	5.30	5.2
NY 60-24	3.09	1.55	.65	5.29	4.8
202	2.46	1.74	.81	5.01	4.4
Narragansett	2.80	1.57	.62	4.99	5.0
NY 60-18 (N.Y. Syn. A)	2.83	1.45	.69	4.97	5.0
Maliani	2.58	1.62	.77	4.97	5.0
Arnim	2.84	1.53	.47	4.84	6.1
NY 60-23	2.82	1.41	.58	4.81	5.2
NY 60-19 (Cayuga)	2.74	1.40	.65	4.79	5.6
NY 60-20	2.69	1.49	.58	4.76	5.2
Cardinal	2.40	1.57	.77	4.74	4.8
Williamsburg	2.32	1.70	.71	4.73	5.0
WL 400	2.42	1.44	.73	4.59	5.0
Culver	2.56	1.43	.56	4.55	5.6
Vernal	2.70	1.31	.46	4.47	6.0
M	2.07	1.54	.78	4.39	4.8
Sevelra	2.41	1.36	.44	4.21	6.0
Moapa	1.87	1.39	.70	3.96	5.2
Lahontan	2.14	1.23	.44	3.81	6.8
LSD .05	.48	.20	.11	.62	
C.V. %	14.6	10.3	13.4	10.3	

MASSACHUSETTS - Feeding Hills

Table 57.-- 1960 Alfalfa Variety Test C

<u>Entry</u>	<u>Yield of Dry Matter in Tons/Acre</u>				<u>Leaf Spot 8/28/60</u>
	<u>1st Harvest</u>	<u>2nd Harvest</u>	<u>3rd Harvest</u>	<u>1961 Total</u>	
NY 60-22	3.29	2.00	.98	6.27	4.2
Alfa	3.28	1.96	.89	6.13	4.5
NY 60-21	3.13	1.80	.70	5.63	4.5
Atlantic	3.03	1.69	.59	5.31	5.4
Vernal	2.98	1.62	.51	5.11	6.0
NY 60-23	2.73	1.67	.63	5.03	5.1
Cossack	2.92	1.63	.46	5.01	5.8
Maliani	2.42	1.69	.79	4.90	4.6
NY 60-24	2.65	1.55	.60	4.80	5.2
WL 400	2.34	1.48	.74	4.55	5.0
Meeker Baltic	2.54	1.48	.43	4.45	6.0
Ladak	2.80	1.19	.41	4.40	6.0
LSD .05	.56	.24	.10	.90	
C.V. %	15.7	11.5	12.6	13.7	

Alfalfa - 1961

1. 1961 was one of the most favorable growing seasons on record for forage crops in upper New York. June was quite cool, September was unusually warm and the fall frost date much delayed. Above average rainfall throughout the season also contributed to the near - ideal conditions. Average yields on some alfalfa trials (2nd year production) exceeded 7 tons/acre under 3-cutting management.
2. Harvest conditions in very early June were again favorable for early hay harvest. Frequent wetting periods in mid-June plus the heavy first cut growth attained by that time resulted in extensive lodging and delayed harvest for hay not cut on early dates.
3. For new seedings made in 1961, considerable damage from companion crops may be anticipated. Oats in many cases lodged badly; with the late fall and abundant moisture, volunteer oats were again a problem. Where judicious seeding management was practiced, however, conditions were favorable for strong establishment.
4. Seed sales of alfalfa reflect a decided swing away from the use of DuPuits and other Flemish-type strains. Difficulties in handling the heavy early growth are probably the cause. Yield potential for this type of alfalfa under intensive management remain unsurpassed.
5. Cayuga in older stands (3rd and 4th seasons) continues to look outstanding for prolonged good production under the intensive management recommended for quick-recovery strains. 1-2 years good production beyond the 2-3 generally given by Flemish-type alfalfas is indicated. Wilt seems to be a significant factor in reduction of Flemish strains after 2-3 seasons but probably not the only factor because Narragansett (also susceptible) often survives somewhat better. Vernal survives as well as Cayuga but is lower in total production because of slower regrowth under 3-cut management.

A number of trials and demonstrations established in 1960 contain Cayuga from seed produced on a small increase block in California. This lot has since been found to have suffered severe mechanical injury to the seed during cleaning that apparently influenced both germination and viability. From comparisons with other lots at Ithaca there is some doubt that this lot adequately represents the variety, especially on establishment. Persistence of surviving plants should not be affected, however.
6. Consumers who are changing from DuPuits and other Flemish strains to Cayuga and other varieties are cautioned to use good seeding management practices. No other varieties approach the Flemish-type strains in early seedling vigor and competitive ability. Many conditions under which DuPuits has survived and produced a fair legume stand would eliminate seeding of other varieties completely.
7. A number of trials are now in progress to test performance of experimental strains which include Narragansett and Flemish strains with wilt resistance included, as well as a strain derived from plants selected from Narragansett for high seed set production.
8. Other alfalfa is in progress to produce and test narrow-based synthetics and double-cross hybrids of best available clones as well as synthetics which include the creeping-rooted character.
9. Three years of testing have shown no advantage for variety-hybrids or mixtures compared to adapted, parental varieties like Narragansett and Vernal.
10. Seed source trials for stock seed lots of DuPuits and Alfa have shown no deviations in average performance for the varieties.

Table 58.-1958 U.S.D.A. Variety-Cross Trial

Location: Ketola Field, Ithaca N.Y. 1961 Data
Management: 3 cuts/season

Random Number	Entry	Yield - Tons per Acre (12% M)			(Adj.)	Lattice Adj. Total Season 3 yr. Ave.
		6/24	8/7	9/11	Total Season (RCB)	59-61
1	Atlantic x Buffalo	2.51	1.19	1.11	4.81	4.86
2	Atlantic x Ind. Syn. F.	2.81	1.26	1.07	5.14	4.78
3	Atlantic x Lahontan	2.54	1.31	1.02	4.87	4.42
4	Atlantic x Narragansett	2.64	1.28	1.11	5.04	4.88
5	Atlantic x Rambler	2.66	1.19	.97	4.83	4.74
6	Atlantic x Vernal	2.88	1.36	1.09	5.33	4.84
7	Buffalo x Ind. Syn F.	2.68	1.21	1.16	5.05	4.73
8	Buffalo x Lahontan	2.51	1.23	1.12	4.85	4.46
9	Ind. Syn F. x Narragansett	2.79	1.37	1.21	5.37	4.92
10	Ind. Syn F. x Vernal	2.60	1.26	1.08	4.95	4.77
11	Lahontan x Vernal	2.66	1.35	.96	4.98	4.73
12	Narragansett x Williamsburg	2.54	1.28	1.07	4.89	4.85
13	Ranger x Vernal	2.55	1.21	.94	4.71	4.72
14	Vernal x Rambler	2.68	1.25	1.00	4.92	4.70
15	Vernal x Williamsburg	2.73	1.29	1.09	5.11	4.79
16	Atlantic and Buffalo	2.64	1.29	1.12	5.04	4.76
17	Atlantic and Lahontan	2.57	1.31	1.10	4.97	4.69
18	Atlantic and Narragansett	2.71	1.31	1.12	5.13	4.87
19	Atlantic and Rambler	2.73	1.22	1.05	5.00	4.78
20	Atlantic and Vernal	2.59	1.30	1.05	4.94	4.91
21	Buffalo and Lahontan	2.68	1.33	1.13	5.14	4.55
22	Lahontan and Vernal	2.61	1.22	.96	4.79	4.71
23	Narragansett & Williamsburg	2.58	1.28	1.10	4.96	4.71
24	Ranger and Vernal	2.62	1.20	.95	4.78	4.59
25	Vernal and Rambler	2.62	1.18	.94	4.75	4.71
26	Vernal and Williamsburg	2.52	1.20	1.05	4.77	4.62
27	Mass. Polycross	2.55	1.13	.95	4.63	4.41
28	F.C. 34044 - Atlantic	2.48	1.27	1.11	4.86	4.84
29	F.C. 34042 - Buffalo	2.34	1.20	1.10	4.65	4.55
30	F.C. 34174 - Ind. Syn. F	2.57	1.12	1.00	4.70	4.72

Table 58.--1958 U.S.D.A. Variety Cross Trial (Cont.)
1961 Data

Rand. No.	Entry	Yield - Tons / Acre (12% M)			Total Season (Adj. Lattice) (RCB)	3 yr. Ave. Total Season (Adj. Lattice)	% Stand 9/26/60
		6/15	7/28	9/11			
31	Lahontin	2.57	1.29	1.03	4.89	4.13	69
32	Narragansett	2.54	1.21	1.03	4.78	4.75	75
33	Rambler	2.43	1.01	.72	4.17	4.14	65
34	Ranger	2.51	1.19	1.00	4.71	4.69	72
35	Vernal	2.81	1.24	1.01	5.05	4.97	73
36	Williamsburg	2.45	1.23	1.18	4.86	4.78	77
Ave.		2.61	1.24	1.05	4.73	4.61	
F - Varieties (RCB)		1.57*	1.62*	2.57**	1.79*		
L.S.D. (P=.05)		.126	.16	.16	.45	.18	
C.V. %		8.6	11.0	13.1	8.0		
Ave. D.M. %		17.7	20.1	21.2			
EFFIC.					148.7%		

Table 59.--Comparison of Variety Crosses, 50-50 Blends and Parent Varieties
Location: Ketola Field, Ithaca, N.Y.
Yield Data (Adj. Means) for Total Season Yield of Hay (T/A at 12% M)
Management: 3 cuts/season

1954-61 Summary

	Parent 1	Parent 2	Parent Ave.	Var. Cross	50-50 Blend	High Parent
Atlantic x Buffalo	4.84	4.55	4.69	4.62	4.76	4.84
" x Ind. F	4.84	4.50	4.67	4.78	---	4.84
" x Lahontan	4.84	4.13	4.48	4.42	4.69	4.84
" x Naragansett	4.84	4.75	4.79	4.88	4.87	4.84
" x Rambler	4.84	4.14	4.49	4.74	4.78	4.84
" x Vernal	4.84	4.97	4.91	4.84	4.91	4.97
Vernal x Williamsburg	4.97	4.78	4.87	4.79	4.62	4.97
" x Lahontan	4.97	4.13	4.55	4.73	4.71	4.97
" x Ind. F	4.97	4.50	4.73	4.77	---	4.97
" x Ranger	4.97	4.69	4.83	4.72	4.59	4.97
" x Rambler	4.97	4.14	4.55	4.70	4.71	4.97
Buffalo x Ind. F	4.55	4.50	4.52	4.73	---	4.55
" x Lahontan	4.55	4.13	4.34	4.46	4.55	4.55
Naragansett x Williamsburg	4.75	4.78	4.76	4.85	4.71	4.78
" x Ind. F	4.75	4.50	4.62	4.92	---	4.75
Var. crosses v.s. ave. of 2 parents (15 crosses - ave.)			4.65	4.73		
Var. crosses v.s. 50-50 Blends of parents (11 crosses - ave.)				4.70	4.72	4.87
Var. crosses v.s. Hi-parent of cross (15 crosses - ave.)				4.73		4.84

L.S.D. (P=.05) for individual means .30 T/A (54-60) w.r.
Approx. L.S.D. (P=.05) for comparing ave. of 15 crosses = .08 T/A (54-60) w.r.

Notes: Conclusions from 3 years of data are that on the average, variety crosses do yield slightly more than the average performance of the 2 parent varieties. On the average, however, such crosses give no better performance than 50-50 blends of the same varieties. No variety crosses were equal to the best adapted parent varieties. There is no evidence to suggest any superiority for either variety crosses or blends compared to best adapted strains.

Table 60.--1958 Alfalfa U.S.D.A. Singlecross Test
 Location: W. Lamkin Field 1961 Data and 1959-61 Summary
 Management: 3 cuts / season

Random Number	Entry	Yield - Tons/Acre (12% M)			Season Total	Lattice			59-61 Average
		6/16	7/24	9/		Adjusted Total Season Yields			
						1959	1960	1961	
6	49-40 x Minn 247	2.94	1.15	1.09	5.18	4.52	3.47	5.14	4.37
5	49-18 x Minn 247	2.67	1.59	1.28	5.54	4.44	3.78	5.57	4.59
8	49-40 x Minn 265	2.86	1.40	1.11	5.37	4.83	3.44	5.40	4.55
7	49-18 x Minn 265	3.13	1.58	1.29	6.00	5.03	4.01	5.95	4.99
25	49-40 x S.Dak. H2-7	3.05	1.29	1.18	5.53	4.75	3.64	5.53	4.64
20	49-18 x S.Dak. H2-7	2.92	1.59	1.18	5.69	4.60	3.86	5.75	4.73
24	49-40 x S.Dak. H2-5	2.70	1.31	1.29	5.30	4.51	3.51	5.31	4.44
19	49-18 x S.Dak. H2-5	3.16	1.60	1.47	6.23	4.54	3.73	6.17	4.81
2	49-40 x Iowa 42	2.93	1.26	1.15	5.33	4.75	4.14	5.37	4.75
1	49-18 x Iowa 42	3.38	1.62	1.35	6.35	5.10	4.04	6.32	5.15
4	49-40 x Iowa 187-7	2.98	1.44	1.25	5.67	4.63	3.44	5.62	4.56
3	49-18 x Iowa 187-7	3.27	1.68	1.46	6.40	4.93	4.36	6.38	5.22
10	49-40 x Nebr. 1740	3.02	1.50	1.38	5.90	4.86	3.85	5.91	4.87
9	49-18 x Nebr. 1740	2.81	1.64	1.40	5.85	4.82	4.01	5.83	4.88
12	49-40 x Nebr. 1996	2.90	1.36	1.15	5.41	4.78	3.64	5.44	4.61
11	49-18 x Nebr. 1996	3.09	1.68	1.51	6.28	4.99	4.50	6.26	5.24
22	49-40 x Pa. 53-13	3.18	1.62	1.44	6.24	5.06	4.16	6.26	5.15
17	49-18 x Pa. 53-13	3.22	1.68	1.39	6.29	4.69	3.97	6.32	4.99
23	49-40 x Pa. 53-19	2.96	1.55	1.51	6.02	5.09	4.34	6.03	5.15
18	49-18 x Pa. 53-19	3.09	1.59	1.50	6.18	4.84	3.85	6.15	4.94
14	49-40 x Nev. C902	2.82	1.68	1.36	5.86	4.33	3.45	5.86	4.54
13	49-18 x Nev. C902	2.75	1.76	1.40	5.91	4.47	3.60	5.92	4.66

Table 60.--1958 Alfalfa U.S.D.A. Singlecross Test (cont)
Location: W. Lamkin Field 1961 Data and 1959-61 Summary

Random Number	Entry	Yield - Tons/Acre (12% M)			Lattice Adjusted Season 1959	Total Yields 1961	1961	59-61 Average
		6/16	7/24	9/				
21	49-40 x N.C. 4	3.14	1.40	1.45	4.83	3.96	5.96	4.91
16	49-18 x N.C. 4	3.08	1.73	1.42	5.01	4.44	6.23	5.22
15	49-18 x 49-40	2.71	1.62	1.55	5.01	4.31	5.90	5.07
26	49-40 x N.C. 42	3.23	1.73	1.44	5.19	4.67	6.41	5.42
27	49-18 x C 89	2.98	1.87	1.46	4.33	4.02	6.35	4.90
28	Mass. Polycross 1	3.26	1.53	1.28	4.65	4.04	6.07	4.92
29	Mass. Polycross 2	2.93	1.56	1.30	5.19	4.11	5.83	5.04
30	Ranger F.C. 34043	2.96	1.64	1.32	4.70	3.70	5.92	4.77
31	Vernal F.C. 34104	3.08	1.60	1.39	5.27	4.24	6.03	5.17
32	C 902 x N.Y. 49-40	2.75	1.66	1.32	4.44	3.75	5.75	4.64
33	Narragansett F.C. 34045	3.12	1.52	1.49	5.22	4.38	6.09	5.22
34	Buffalo F.C. 34042	3.08	1.67	1.67	4.49	3.69	6.47	4.88
35	Atlantic F.C. 34044	3.19	1.71	1.48	4.89	4.13	6.37	5.12
36	DuPuits 58-46	3.11	1.85	1.64	5.13	4.11	6.61	5.28
	Average	3.01	1.57	1.37	4.80	3.94	5.95	4.89
	F = Varieties (RCB)				2.61**	4.06**	4.77**	
	L.S.D. (F=05)				.57	.41	.46	
	C.V. %							
	Ave. D.M. %							
	Ave. of NY 49-40 in Single x's				4.74	3.75	5.65	4.71
	Ave. of NY 49-18 in Single x's				4.79	4.01	6.07	4.95

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Table 61.--1958 Alfalfa - U.S.D.A. Singlecross Test
 Location: Middle Ogdan Field, Ithaca 1961 Data
 Management: 3 cuts/season

Random Number	Entry	Yield - Tons/Acre			(12% moisture) Total	Notes:
		6/19	8/1	9.15		
13	Pa. 53-13 x C902	3.03	1.68	.78	5.49	1. Appreciable thinning of stands on some entries began to show up in 1961. There was bluegrass present in plots in 1st cut but the heavy growth was lodged and grass fraction estimates impossible.
19	Pa. 53-19 x C902	2.98	1.16	.94	5.53	
4	Pa. 53-13 x Neb. 1996	2.92	1.34	.75	5.01	
14	Pa. 53-19 x Neb. 1996	3.23	1.50	.85	5.57	
5	Pa. 53-13 x S.D. H 25	2.73	1.24	.65	4.63	2. Last reps. in particular were beginning to be noticeably affected by poor drainage conditions - consid. variability within last rep. for this. Probably the reason for the excellent performance of Narragansett here.
7	Pa. 53-19 x S.D. H 25	3.03	1.33	.67	5.02	
12	Pa. 53-13 x Neb. 1740	3.01	1.39	.80	5.21	
23	Pa. 53-19 x Neb. 1740	3.08	1.62	.88	5.59	
17	Pa. 53-13 x Minn 265	2.96	1.40	.72	5.08	Ave. Pa. 53-13 in 7 crosses (6/19) (8/1) (9/15) Total 2.97 1.40 .75 5.12
9	Pa. 53-19 x Minn 256	2.81	1.40	.60	4.80	
22	Pa. 53-13 x S.D. H 27	3.08	1.43	.76	5.28	
16	Pa. 53-19 x S.D. H 27	2.93	1.26	.53	4.72	
18	Pa. 53-13 x Minn 247	3.03	1.32	.76	5.11	Ave. Pa. 53-19 in 7 crosses (6/19) (8/1) (9/15) Total 2.98 1.43 .73 5.14
20	Pa. 53-19 x Minn 247	2.83	1.30	.61	4.73	
10	Pa. 53-13 x Iowa 42	3.14	1.40	.75	5.29	
21	Pa. 53-13 x N.C. 42	2.99	1.54	1.10	5.63	
3	Pa. 53-13 x Pa. 53-19	3.04	1.34	.72	5.10	Average F - Varieties I.S.D. (P - .05) C.V.% (see notes on side)
2	Pa. 53-19 x N.C. 4	2.63	1.12	.70	4.46	
6	Pa. 53-19 x Iowa 187-7	2.90	1.30	.74	4.94	
15	Pa. 53-19 x NY 49-40	2.94	1.36	.83	5.14	
1	Ind. 116 x C89	2.72	1.24	.81	4.77	Average F - Varieties I.S.D. (P - .05) C.V.% (see notes on side)
11	Ind. 116 x Ind. 136	2.70	1.22	.83	4.75	
8	Ind. 116 x Iowa 187-7	3.25	1.44	.96	5.64	
24	DuPuits F.C. 33895	3.03	1.38	1.00	5.41	
25	Narragansett 58-19	3.15	1.57	1.08	5.80	Average F - Varieties I.S.D. (P - .05) C.V.% (see notes on side)
	Average	2.97	1.39	.79	5.15	
	F - Varieties	1.14	2.24*	5.86**	2.24*	
	I.S.D. (P - .05)	.42	.25	.19	.69	
	C.V.%	12.3	16.1	18.2	11.7	

Table 62.--1958 Alfalfa - U.S.D.A. Singlecross Test
 Location: Middle Ogden Field, Ithaca
 Management: 3 cuts/season
 1959-61 Summary

Random Number	Entry	Yield - Tons (12% M)			59-61 Ave.	Notes:
		1959	1960	1961		
13	Pa. 53-13 x C902	5.38	5.30	5.49	5.38	(1) Site has drainage problems - between and within reps. Excellent 3rd year yield of Narragansett probably reflects this.
19	Pa. 53-19 x C902	5.07	5.31	5.53	5.30	
4	Pa. 53-13 x Neb. 1996	5.10	4.54	5.01	4.88	
14	Pa. 53-19 x Neb. 1996	5.02	4.63	5.57	5.07	
5	Pa. 53-13 x S.D. H 25	4.93	4.61	4.63	4.72	(2) Entries 7, 9, and 20 especially showed mixture of plant types - likely includes selfs of 53-19 in with crosses to S.D. and Minn. clones; Probably increased normal
7	Pa. 53-19 x S.D. H 25	4.94	4.43	5.02	4.79	
12	Pa. 53-13 x Neb. 1740	5.05	4.97	5.21	5.07	
23	Pa. 53-19 x Neb. 1740	5.36	5.07	5.59	5.33	
17	Pa. 53-13 x Minn 265	5.15	4.99	5.08	5.07	(3) Comparison of 53-13 vs. 53-19 not too in for 7 crosses:
9	Pa. 53-19 x Minn 265	5.12	4.46	4.80	4.79	
22	Pa. 53-13 x S.D. H 27	5.28	4.96	5.28	5.17	
16	Pa. 53-19 x S.D. H 27	4.66	4.40	4.72	4.59	
18	Pa. 53-13 x Minn 247	5.13	4.81	5.11	5.01	(4) Several single-crosses are very good in appearance. 53-13 x NC 42 is one of best. Conditions are good to test survival in 4th year in this trial. Stand was decreasing rapidly in poorer drained reps. in late 1961.
20	Pa. 53-19 x Minn 247	5.00	4.60	4.73	4.77	
10	Pa. 53-13 x Iowa 42	5.09	5.33	5.29	5.23	
21	Pa. 53-13 x N.C. 42	5.28	5.46	5.63	5.45	
3	Pa. 53-13 x Pa. 53-19	5.25	4.77	5.10	5.04	(59-13) (59-19) diff.
2	Pa. 53-19 x N.C. 4	4.93	4.37	4.46	4.58	
6	Pa. 53-19 x Iowa 187-7	5.10	4.72	4.94	4.92	
15	Pa. 53-19 x NY 49-40	4.88	4.65	5.14	4.88	
1	Ind. 116 x C 89	4.52	4.36	4.77	4.54	From observation only, selfing was more evident in the crosses of 53-19; this might have reduced the average vigor and yield difference above.
11	Ind. 116 x Ind. 136	4.96	4.91	4.75	4.87	
8	Ind. 116 x Iowa 187-7	5.25	4.71	5.64	5.20	
24	DuPuits F.C. 33895	5.40	5.32	5.41	5.37	
25	Narragansett 58-19	5.01	5.05	5.80	5.28	1959 1960 1961 59-61 ave. 5.15 4.88 5.12 5.05 5.02 4.70 5.14 4.95 .13 .18 -.02 .10
	Average	5.07	4.82	5.15	5.01	
	F-Varieties	1.55-	3.61**	2.24*	5.42**	
	L.S.D. (P=.05)	.47	.50	.69	.32	
	F - Var. x yrs.	8.1	9.0	11.7	.95-	

Table 63.--1957 Alfalfa Variety Trial - Canton

Management: 2 or 3 cuts/season 1958-60 Summary

Random Number	Entry	Seed Lot Number	Yield - Tons per Acre (12% M)				Notes:
			1958	1959	1960	58-60 Ave.	
1	Alfa - C.D.	57-51	3.83	3.91	3.75	3.83	(1) Good stands were obtained at this Northern site but there was a heavy encroachment of quack and other grasses in the 1st year. A spring dalapon application in the second year greatly depressed grass competition in the second and third seasons.
2	Alfa - U.S.D.A.	57-56	3.71	3.73	4.05	3.83	
3	Alfa - Elite	57-52	3.75	3.86	4.16	3.93	
4	DuPuits	57-53	3.90	4.13	4.31	4.12	
5	DuPuits	57-49	4.13	3.85	4.15	4.04	
6	Cardinal	57-63	3.78	3.65	4.45	3.96	(2) A very large entry x year interaction was due to the presence of grass competition and later to rapidly declining stands on the Flemish strains in the third season. This was probably due to wilt although Narragansett did not go down as fast.
7	Tourneur 501	57-57	3.80	3.86	3.96	3.88	
8	G P R-2	57-55	3.88	3.84	4.82	4.18	
9	Rambler	57-55	3.73	3.50	4.46	3.90	
10	Lahontin	57-54	3.58	2.93	4.68	3.73	
11	Ranger	57-59	3.85	3.66	4.79	4.10	(3) 4th year results were observed only and not measured. They agreed closely with what was observed on a companion trial at Middle Ogen Field in Ithaca. The New York Synthetics including Cayuga were very outstanding and both Ranger and Vernal also survived well compared to the non-wilt resistant strains.
12	Purdue F	57-62	3.63	3.69	5.04	4.12	
13	N.Y. "A" (A 300)	57-10	3.99	4.11	5.24	4.45	
14	N.Y. "B" (A 301)	57-8	3.65	4.03	5.18	4.29	
15	N.Y. "C" (A 302)	57-9	3.73	3.70	4.77	4.07	
16	N.Y. "A" (A 300)	'55 seed	3.94	4.04	5.10	4.36	(3) 4th year results were observed only and not measured. They agreed closely with what was observed on a companion trial at Middle Ogen Field in Ithaca. The New York Synthetics including Cayuga were very outstanding and both Ranger and Vernal also survived well compared to the non-wilt resistant strains.
17	N.Y. "B" (A301)	'55 seed	4.02	3.88	5.32	4.41	
18	N.Y. "C" (A302)	'55 seed	3.57	3.28	4.75	3.87	
19	Vernal	33273	3.71	3.79	4.91	4.14	
20	Vernal	57-48	3.82	3.60	4.46	3.96	
21	Narragansett	57-50	3.80	4.03	4.42	4.08	(3) 4th year results were observed only and not measured. They agreed closely with what was observed on a companion trial at Middle Ogen Field in Ithaca. The New York Synthetics including Cayuga were very outstanding and both Ranger and Vernal also survived well compared to the non-wilt resistant strains.
22	Narragansett	57-58	3.74	4.12	4.24	4.03	
	Average		3.80	3.78	4.59	4.05	
	F - Varieties		.89-	3.84**	3.99**	.76-	
	L.S.D. (P=.05)		.42	.41	.62		
	C.V. %		8.7	8.6	10.7		
	F - Var. x Yr.					9.84**	

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Table 64.--1957 Alfalfa Variety Test - Middle Ogden Field, Ithaca

			Management: 3 cuts/season				1961 Data	
Random Number	Entry	Seed Lot Number	Yield - Tons/Acre (12% M)			% Legume		
			6/19	8/1	9/15			
			Total					
1	Seandia (Alfa)	57-51	2.11	.79	.31	3.21	56	
2	Alfa	57-56	1.91	.62	.21	2.76	48	
3	Alfa - Elite	57-52	1.45	.43	.12	2.00	9	
4	DuPuits	57-53	2.01	.88	.38	3.27	57	
5	DuPuits	57-49	2.05	.78	.29	3.11	44	
6	Cardinal	57-63	2.01	.63	.22	2.86	31	
7	Tourneur 501	57-57	2.17	.75	.28	3.20	58	
8	GPR - 2	-	1.90	.75	.34	2.99	32	
9	Rambler	57-55	1.91	1.12	.54	3.57	44	
10	Labontin	57-54	2.50	1.92	1.07	5.48	91	
11	Ranger	57-59	2.35	1.67	.93	4.95	87	
12	Purdue F	57-62	2.39	1.52	.98	4.89	93	
13	N.Y. "A"	57-10	2.60	1.75	1.15	5.50	95	
14	N.Y. "B"	57-8	2.44	1.87	1.17	5.48	98	
15	N.Y. "C"	57-9	2.50	1.78	1.06	5.34	97	
16	N.Y. "A"	1955 seed	2.49	1.86	1.17	5.52	97	
17	N.Y. "B"	1955 seed	2.71	1.89	1.21	5.81	97	
18	N.Y. "C"	1955 seed	2.60	1.73	1.13	5.47	91	
19	Vernal	33273	2.68	1.71	1.02	5.41	95	
20	Vernal	57-48	2.38	1.68	1.02	5.08	90	
21	Marragansett	57-50	2.15	1.04	.67	3.86	74	
22	Marragansett	57-58	1.97	.85	.49	3.31	40	
Average			2.24	1.27	.72	4.23		
F-Varieties			6.86**	36.24**	54.54**	32.46**		
L.S.D. (P=.05)			.24	.18	.10	.42		
C.V. %			12.2	15.2	16.8	14.3		
Ave. D.M. %			21.0	21.5	21.6			

Notes: Stand loss continued on wilt-susceptible varieties. Actual damage variable but loss evident on nearly all plots in this season.

Table 65.--1957 Alfalfa Variety Test - Middle Ogden Field, Ithaca.

Random Number	Entry	Seed Lot Number	Management: 3 cuts/season					1958-61 Summary	
			Total Yield - Tons/Acre (12% M)					58-61 Average	58-60 Average
			1958	1959	1960	1961			
1	Scandia (Alfa)	57-51	5.76	4.85	4.41	3.21	4.56	5.01	
2	Alfa	57-56	5.97	5.22	4.70	2.74	4.66	5.29	
3	Alfa - Elite	57-52	5.55	4.96	3.56	2.00	4.02	4.69	
4	DuPuits	57-53	5.63	4.98	4.65	3.27	4.63	5.08	
5	DuPuits	57-49	6.09	5.03	4.12	3.11	4.59	5.07	
6	Cardinal	57-63	5.12	4.69	4.02	2.86	4.17	4.61	
7	Tourneur 501	57-57	5.52	4.69	3.96	3.20	4.34	4.72	
8	GPR - 2	-	5.89	5.00	3.60	2.99	4.37	4.83	
9	Rambler	57-55	3.99	3.57	3.37	3.57	3.62	3.64	
10	Lahontin	57-54	4.93	4.56	4.43	5.48	4.85	4.64	
11	Ranger	57-59	5.06	4.66	4.37	4.95	4.76	4.69	
12	Purdue F	57-62	5.38	4.64	4.52	4.89	4.86	4.84	
13	N.Y. "A"	57-10	5.93	5.03	4.69	5.50	5.29	5.21	
14	N.Y. "B"	57-8	5.73	5.00	5.05	5.48	5.31	5.25	
15	N.Y. "C"	57-9	5.77	4.77	4.41	5.34	5.07	4.98	
16	N.Y. "A"	1955 seed	5.63	5.08	4.83	5.52	5.26	5.17	
17	N.Y. "B"	1955 seed	5.92	5.05	5.11	5.81	5.47	5.35	
18	N.Y. "C"	1955 seed	5.60	4.82	4.63	5.47	5.13	5.01	
19	Vernal	33273	5.48	4.93	4.64	5.41	5.12	5.02	
20	Vernal	57-48	5.60	4.87	4.31	5.08	4.97	4.92	
21	Narragansett	57-50	5.37	4.87	4.07	3.87	4.54	4.77	
22	Narragansett	57-58	5.70	4.80	3.10	3.31	4.23	4.53	
	Average		5.53	4.82	4.30	4.23	4.72	4.88	
	F - Varieties		10.37**	8.92**	3.62**	3.25**	2.26**		
	L.S.D. (P=.05)		.40	.31	.78	.59	.88		
	C.V. %		5.7	5.0	14.4	11.3	-----		
	F - Var. x Yr.						10.18**		

Notes:

(1) Stands were good on all entries through 2nd Harvest year. Cayuga and Syn.A equalled the Flemish strains even during this period in this trial.

(2) Wilt susceptible strains began to thin rapidly in stand in 1960, the third harvest season. Stand losses were at first spotty but by the 4th season, 1961, stands were much reduced on all susceptible lines.

(3) 1961 was a very favorable season and the yield reported on susc. lines is composed mostly of weeds and grasses. Stands on resistant strains were still 50-60% and forage mostly alfalfa.

(4) Differential stand losses are responsible for the large year x variety interaction.

(5) Drainage in this trial is somewhat limiting; Cayuga has taken the heavy cutting pressure in this difficult environment very well.

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Table 66.--1958 Alfalfa Variety Trial
Location: W. Lamkin Field, Ithaca, N.Y. 1961 Data
Management: 3 cuts/season

Random Number	Entry	N.Y. Seed Number	Yield - Tons per Acre (12 $\frac{1}{2}$ M)					Ave. D.M.	
			6/6	7/17	9/1	Season Total	6/6	9/17	9/11
1	Gillon	58-35	2.79	1.90	1.19	5.88	16.6	17.7	21.3
2	FD - 100	58-36	2.87	1.95	1.28	6.09	16.7	17.9	21.4
3	GPR - 2	58-34	2.82	1.89	1.27	5.97	16.3	17.9	20.5
4	Socheville	58-28	2.76	1.85	1.32	5.93	17.4	18.3	20.6
5	Alfa	58-29	3.25	1.83	1.11	6.20	18.2	17.7	20.3
6	Alfa	58-2	2.76	1.76	1.04	5.56	16.6	18.4	20.9
7	Alfa	57-51	2.80	1.87	1.20	5.86	16.3	17.6	20.9
8	Alfa	57-56	2.77	1.78	1.14	5.69	16.5	17.6	20.5
9	Cardinal	58-3	2.77	1.86	1.24	5.88	17.1	17.8	21.4
10	Cardinal	57-57	2.79	1.79	1.20	5.78	17.0	17.6	21.2
11	DuPuits	58-46	2.85	1.80	1.29	5.93	16.3	17.2	20.9
12	DuPuits	58-18	2.81	1.73	1.16	5.70	17.3	17.8	20.1
13	Vernal	58-16	2.74	1.61	1.17	5.52	16.3	16.8	19.9
14	Vernal	58-47	2.83	1.80	1.16	5.79	16.5	18.3	19.8
15	P.I. 246356	58-37	2.71	1.62	1.04	5.37	16.5	17.0	18.8
16	N.Y. Syn. A-57	58-1	2.65	1.78	1.25	5.68	15.9	17.0	19.9
17	N.Y. Syn. A-56	57-10	2.82	1.65	1.20	5.67	16.5	17.4	19.6
18	N.Y. Syn. B-56	57-8	2.82	1.88	1.33	6.02	16.7	17.2	20.4
19	Ranger	58-17	2.47	1.57	1.00	5.04	16.1	16.9	18.7
20	Narragansett	58-19	2.53	1.81	1.39	5.73	16.1	17.3	20.5
21	Narragansett	58-20	2.65	1.62	1.18	5.45	16.1	16.9	19.4
22	Narragansett	58-4	2.69	1.64	1.25	5.58	15.9	16.6	19.8
23	Narragansett	58-14	2.54	1.57	1.18	5.29	16.4	17.0	19.7
24	Narragansett	58-23	2.61	1.53	1.13	5.27	16.4	16.4	18.5
25	Narragansett	57-50	2.65	1.62	1.29	5.55	16.7	17.4	20.7
26	Average		2.75	1.75	1.20	5.70	16.6	17.5	20.2
	F - Varieties		2.13**	2.21**	2.28**	2.40**	1.30 -	2.22**	3.35**
	L.S.D. (P=.05)		.20	.16	.12	.36	.19	.8	.9
	G.V. (%)		8.3	10.50	11.6	7.0	6.0	5.1	4.9
	Ave. D. M. %		16.6	17.5	20.2				

Notes:

1. Growth quite rank on 1st 2 cuts. Summer drought less a factor on site than in earlier's harvest years.

Harvest made at desirable quality stage on all 3 cuts.

2. Stands remain good; at season's end, a few strips of wilted plants were evident on susceptible varieties in field's water courses. Wilt not a factor in production this season.

3. P.I. 246356 quite susceptible to mildew.

Table 67.--1958 Alfalfa Variety Trial
Location: W. Lamkin Field, Ithaca, N.Y. 1959-61 Summary
Management: 3 cuts/season

Random Number	Entry	N.Y. Seed Number	Yield - Tons per Acre (12%)			Notes:
			1959	1960	1961	
						59-61 Ave.
1	Gallon	58-35	4.68	4.65	5.88	5.07
2	FD - 100	58-36	4.47	4.58	6.09	5.05
3	GPR - 2	58-34	4.19	4.30	5.97	4.82
4	Socheville	58-28	4.84	4.81	5.93	5.20
5	Alfa	58-29	5.25	4.93	6.20	5.46
6	Alfa	58-2	5.00	4.59	5.56	5.05
7	Alfa	57-51	5.34	4.94	5.86	5.39
8	Alfa	57-56	5.05	5.00	5.69	5.25
9	Cardinal	58-3	4.97	4.75	5.88	5.20
10	Cardinal	57-57	4.71	4.48	5.78	4.99
11	DuPuits	58-46	5.10	5.01	5.93	5.35
12	DuPuits	58-18	5.12	4.84	5.70	5.22
13	Vernal	58-16	4.69	4.49	5.52	4.90
14	Vernal	58-47	4.79	4.74	5.79	5.11
15	P.I. 246356	58-37	4.51	4.34	5.37	4.74
16	N.Y. Syn A-57	58-1	4.46	4.30	5.68	4.82
17	N.& Syn A-56	57-10	4.46	4.43	5.67	4.86
18	N.& Syn B-56	57-8	4.35	4.38	6.02	4.92
19	Ranger	58-17	4.11	4.09	5.04	4.42
20	Narragansett	58-19	4.92	4.70	5.73	5.12
21	Narragansett	58-20	4.80	4.73	5.45	5.00
22	Narragansett	58-4	4.54	4.51	5.58	4.88
23	Narragansett	58-14	4.68	4.53	5.29	4.84
24	Narragansett	58-23	4.83	4.59	5.27	4.90
25	Narragansett	57-50	4.88	4.61	5.55	5.02
26	Average		4.75	4.61	5.70	5.02
	F - Varieties		1.76*	1.94*	2.40**	4.21**
	L.S.D. (P=.05)		.66	.48	.36	.32
	C.V. %		11.1	8.3	7.0	.85-
	F - Var. x Yrs.					

(1) This trial is located on Chenango gravelly loam where drainage is variable from very good to excessive. 1st cuttings were not affected too much by drought but later harvest were - particularly in the first harvest year. Within trial variability decreased with standage.

(2) As a new seeding, this trial was subject to the severe winter conditions of 1958-59. A few small spots were killed by ice sheets but no general damage was observed. This could have affected some what some genotypes within the more cold susceptible Flemish strains; DuPuits and Alfa showed no evidence of injury, however.

(3) A few wilt-like symptoms began to show in water courses in late harvests in 1961 - stands generally remain good however after the 3 harvest years.

Table 68.--1959 Alfalfa Variety Trial - Helfer Field #1
Management: 3 cuts/season 1961 Data

Random Number	Entry	N.Y. Number	Yield - Tons per Acre					Ave. D.M. %	9/18
			1st cut 6/19	2nd cut 8/3	3rd cut 9/18	Season Total	6/9		
1	F-D 100	59-6	3.28	2.09	1.65	7.01	20.2	20.0	22.3
2	Flandral	59-27	3.50	2.14	1.60	7.23	20.3	20.5	22.8
3	NK-505	59-4	3.51	2.00	1.52	7.03	19.8	20.1	22.0
4	NP-502	59-28	3.51	1.96	1.51	6.98	20.6	20.7	22.1
5	NP-503	59-29	2.96	1.72	1.29	5.97	18.9	20.1	21.6
6	NP-504	59-30	3.08	1.67	1.25	6.00	19.6	19.2	21.6
7	Ross #2	59-26	2.93	2.00	1.61	6.54	20.7	20.0	22.6
8	Alfa	59-23	3.28	2.09	1.60	6.96	19.6	20.4	22.6
9	DuPuits	59-22	3.29	2.05	1.55	6.89	19.6	20.2	22.0
10	Ranger	59-21	3.02	1.56	1.14	5.71	20.2	18.9	21.4
11	Socheville	59-24	3.18	2.02	1.54	6.74	19.4	19.2	23.3
12	Narragansett	59-19	3.24	1.72	1.40	6.37	19.7	18.1	21.6
13	Syn. A	58-1	3.27	1.69	1.35	6.32	20.8	19.7	22.2
14	Syn. B	57-8	3.14	1.90	1.40	6.43	19.9	21.3	21.8
15	Vernal	59-20	3.25	1.61	1.22	6.08	20.0	19.9	21.5
16	High Seed Narr. Wyom. 58-4		3.02	1.65	1.28	5.95	20.2	20.2	21.5
17	High Seed Narr. Cal. 59-31		3.18	1.82	1.35	6.36	20.0	20.5	22.3
18	Tuna Alf.	59-	3.06	1.93	1.35	6.34	19.9	20.1	22.8
	Average		3.21	1.87	1.42	6.50	20.0	20.0	22.1
	F - Varieties		1.97*	7.14**	11.20**	7.65**	.72-	1.33-	1.34-
	L.S.D. (P= .05)		.37	.20	.14	.45	1.1	1.2	.6
	C.V.%		9.7	9.2	7.9	6.2	7.0	7.9	3.3

Notes: Excellent growth in 1961. Weed content negligible, probably associated with 1960 dalapon treatment. Stands remain good on all entries.

Table 69.--1957 Alfalfa Variety Trial
 Location: McGowan Field, Ithaca, N.Y. 1961 Data
 Management: 3 cuts/season

Random Number	Entry	N.Y. Number	Yield - Tons per Acre (12 %M)				(adj.) Total Yield (Lattice)	% DM
			6/6	7/17	9/1	Total		
1	F-D 100	59-6	2.67	2.30	1.95	6.92	6.88	15.6
2	Flandria	59-27	2.75	2.34	1.88	6.97	6.97	15.1
3	NK-505	59-4	2.68	2.27	1.76	6.72	6.74	15.2
4	NP-502	59-28	2.60	2.18	1.94	6.71	6.67	15.6
5	NP-503	59-29	2.55	2.02	1.66	6.23	6.25	15.7
6	NP-504	59-30	2.55	2.06	1.72	6.33	6.13	15.2
7	Ross #2	59-26	2.42	2.19	1.98	6.59	6.60	15.2
8	Alfa	59-23	2.69	2.41	1.84	6.95	6.91	15.4
9	Alfa	58-2	2.71	2.23	1.73	6.68	6.71	15.4
10	DuPuits	59-22	2.51	2.41	1.93	6.84	6.81	15.2
11	DuPuits	58-49	2.67	2.25	1.87	6.79	6.84	15.7
12	V-66 D.B.	59-7	2.32	1.86	1.51	5.68	5.64	15.8
13	Narr. select - D.B.	59-17	2.42	1.97	1.62	6.01	6.05	14.5
14	Vernal select - D.B.	59-18	2.40	2.01	1.69	6.16	6.14	14.3
15	Ranger	59-21	2.31	1.98	1.63	5.92	5.94	14.8
16	Medicago glutinosa	59-25	2.32	2.04	1.77	6.13	6.15	14.7
17	Socheville	59-24	2.63	2.41	2.04	7.08	7.13	15.7
18	Narragansett	59-19	2.56	2.17	1.82	6.55	6.56	15.1
19	Narragansett	58-20	2.38	2.06	1.62	6.05	5.99	15.2
20	Syn. A	58-1	2.59	1.96	1.72	6.27	6.30	15.5
21	Syn. B	57-8	2.58	2.04	1.81	6.43	6.43	15.4
22	Vernal	59-20	2.46	1.91	1.72	6.09	6.03	15.0
23	Vernal	58-16	2.42	1.85	1.54	5.82	5.79	14.9
24	High Seed Narr. Wyom.	58-4	2.29	1.90	1.58	5.77	5.79	14.3
25	High Seed Narr. Cal.	59-31	2.53	2.11	1.72	6.35	6.40	14.8
Average								
F - Varieties			2.52	2.12	1.76	6.40	6.40	15.2
L.S. D. (P=.05)			3.79**	6.21**	4.27**	8.29**		2.05**
C.V. (%)			1.20	1.20	1.19	.39	.39	.8
Ave. D.M. (%)			6.9	8.1	9.5	5.5		4.6
EFFIC. %			15.2	16.4	20.1			
								108.7%

Table 70.--1960 Alfalfa Variety Trial - Pulleyn Field, Ithaca

Management: 3 cuts / Season			1961 data									
Random No.	Entry	N.Y. No.	Total Yield- Tons/Acre (12% M)			Total		6/12	% alfalfa 7/25	Total Alf. Fraction (Reb)		% DM 6/12
			1st cut 6/12	2nd cut 7/26	3rd cut 9/14	Season Total	adj. Total Yields (Lattice)			9/14	7/12	
1	N.Y. Syn. A	60-18	2.02	.91	.99	3.92	3.92	66	81	88	2.94	75
2	N.Y. Syn. B	60-19	2.08	.88	.93	3.89	3.88	72	78	81	2.94	76
3	H.S. Narrag.	60-20	2.18	.99	1.00	4.17	4.18	78	87	94	3.50	84
4	W.R. Narrag.	60-21	1.70	.95	1.01	3.65	3.66	76	86	97	3.09	85
5	W.R. Flemish	60-22	2.38	1.14	1.20	4.72	4.73	81	91	99	4.15	88
6	N.Y. Syn. C	60-1	1.83	.98	.85	3.67	3.68	61	74	83	2.55	69
7	Ross #2	60-2	2.01	1.07	.83	3.92	3.91	76	86	94	3.23	82
8	Beard - 16 cl HLK	60-3	2.05	.87	.83	3.75	3.74	60	70	80	2.50	67
9	Tuna	60-4	2.10	1.20	.95	4.25	4.23	78	92	94	3.63	85
10	Arnim	60-5	2.15	1.12	1.00	4.27	4.27	82	91	90	3.68	86
11	Flandria	60-6	2.30	1.28	1.20	4.78	4.78	92	93	99	4.49	94
12	FD- 100	59-6	2.39	1.27	1.16	4.82	4.81	87	93	99	4.41	91
13	FD- 100	60-28	2.37	1.26	1.12	4.74	4.76	93	95	100	4.52	95
14	GPR- 1	60-12	2.16	1.28	1.21	4.65	4.65	94	98	100	4.49	97
15	Socheville	59-24	2.52	1.40	1.29	5.21	5.22	90	92	99	4.83	93
16	Narr.-Syn.2	60-23	2.09	1.11	1.09	4.29	4.29	86	95	98	3.92	91
17	Narr.-Syn.2	60-24	2.04	.92	1.02	3.99	3.98	75	81	92	3.21	80
18	Narr. - Syn. 2	60-25	1.96	1.01	.99	3.95	3.93	68	81	96	3.10	78
19	Narr. - Syn. 1	(Garden)	2.07	1.13	1.06	4.26	4.27	80	91	98	3.72	87
20	Narragansett	59-19	1.98	.97	1.01	3.95	3.96	69	87	95	3.17	80
21	Vernal	60-26	2.03	.94	.98	3.94	3.94	79	89	93	3.35	85
22	Ranger	60-13	2.01	.81	.77	3.59	3.58	59	72	76	2.40	67
23	Du Puits	60-17	2.35	1.37	1.34	5.06	5.07	92	97	100	4.83	95
24	Alfa	60-15	2.23	1.28	1.16	4.67	4.68	91	96	99	4.40	94
25	Narragansett	60-14	2.12	.96	.99	4.07	4.09	63	84	90	3.03	74
Ave.			2.13	1.08	1.04	4.25	4.25					17.9
(Reb) F-Var.			5.94**	7.60**	11.75**	12.42**						1.76*
L.S.D. (P=.05)			.21	.17	.12	.36	.36					.43
C.V. %			8.8	13.9	10.6	7.5						6.5
EFFIC. %							100.6%					

NEW YORK - Ithaca

Table 71.--1958 Flemish Alfalfa and Seed Source Test
Location: W. Lamkin

1959-61 Summary
59-61
Average

Random Number	Entry	New York No.	1961 Data and (1959-61) Summary				1959-61 Summary		
			Yield - Tons/Acre (12% M)				1959	1960	Average
			6/6	7/17	9/1	Total			
1	DuPuits (Fd.)	56-5	2.81	1.98	1.23	6.02	5.14	3.76	4.97
2	DuPuits (Fd.)	57-1	2.78	2.00	1.13	5.91	4.88	3.94	4.91
3	DuPuits (Fd.)	57-2	2.86	2.01	1.32	6.20	4.83	3.97	5.00
4	DuPuits (Fd.)	57-3	2.77	2.05	1.31	6.13	4.81	3.86	4.93
5	DuPuits (Fd.)	58-45	2.76	2.00	1.09	5.84	5.03	3.72	4.86
6	DuPuits (Cert.)	58-48	2.71	1.90	1.25	5.87	5.02	3.96	4.95
7	DuPuits (Cert.)	58-49	2.76	1.97	1.25	5.98	4.91	3.91	4.93
8	DuPuits (Cert.)	#3416	2.68	1.94	1.25	5.87	5.00	4.21	5.02
9	DuPuits (Cert.)	58-46	2.69	1.85	1.29	5.83	4.78	3.74	4.78
10	Alfa (Fd.)	58-44	2.86	1.79	1.18	5.83	5.04	3.90	4.92
11	Alfa (Skandia)	58-52	2.74	1.79	1.22	5.75	4.75	3.97	4.82
12	Alfa (Skandia)	58-2	2.48	1.78	1.28	5.74	4.60	3.79	4.71
13	DuPuits (Cert.)	58-50	2.63	1.80	1.35	5.77	4.92	3.89	4.86
14	Socheville - III.	58-51	2.81	1.74	1.16	5.70	5.49	4.12	5.10
*15	Alfa (Skandia - III.)	58-53	2.71	1.78	1.21	5.69	5.01	4.06	4.92
*16	Alfa (Skandia - III.)	58-54	2.72	1.85	1.09	5.66	5.13	4.15	4.98
Average			2.75	1.89	1.21	5.86	4.96	3.94	4.92
F - Varieties			.57-	1.77-	1.01-	.80-	1.43-	1.13-	1.04-
L.S.D. (P = .05)			.25	.22	.20	.48	.49	.39	.26
C.V. %			6.4	8.2	11.9	5.9	6.9	6.9	
Ave. D.M. %			16.5	18.3	22.1				

F - Ent. x Yrs. 1.14-

* 1st generation from Fd. in California

Table 72.--1959 Flemish Alfalfa Seed Source Test.
Location - McGowan Field Planted 5/5/59
1961 data

Random Number	Entry	N.Y. Number	Grams Seed	Yield Tons/Acre (12% M)				Season Total	% D.M. 6/7
				6/7	7/19	9/1	Total		
1	DuPuits (Elite) 59	59-1	9.7	2.71	2.15	1.89	6.75	16.6	
2	DuPuits (Elite) 59	59-2	13.6	2.66	2.45	1.90	7.01	16.1	
3	DuPuits (Elite) 58	58-45	13.4	2.77	2.50	1.95	7.22	16.5	
4	DuPuits (Cert.) 58	58-49	10.0	2.68	2.38	1.87	6.93	16.4	
5	DuPuits (Cert.) 59	59-22	10.1	2.60	2.28	1.63	6.51	16.3	
6	DuPuits (Cert.) 58	58-48	10.7	2.68	2.18	1.79	6.65	16.5	
7	Alfa-Stock-Sweden 58	58-44	12.0	2.83	2.16	1.89	6.87	15.9	
8	Alfa-Stock #027514	59-3	9.7	2.86	2.42	1.88	7.16	15.8	
9	Alfa-Stock #027509	59-5	12.3	2.61	2.28	1.82	6.71	15.3	
10	Alfa-Skandia Blond ALB-2	59-9	11.0	2.67	2.40	1.87	6.94	15.7	
11	Alfa-Skandia, Camp-B578	59-8	11.1	2.68	2.24	1.83	6.75	15.6	
12	Alfa-Skandia, Camp-B566	59-10	10.8	2.74	2.37	1.83	6.95	15.5	
13	Alfa-Skandia, Camp-B580	59-11	10.9	2.66	2.34	1.75	6.75	15.7	
14	Alfa-Skandia, Leonard-B561	59-12	10.5	2.69	2.28	1.89	6.86	15.5	
15	Alfa-Skandia, C+C -B404	59-13	11.0	2.48	2.21	1.73	6.43	14.4	
16	Alfa-Skandia, Camp K-2	59-14	9.3	2.84	2.25	1.89	6.99	15.8	
17	Alfa-Skandia, Camp K-1	59-15	12.1	2.74	2.30	1.83	6.86	15.9	
18	Alfa-Skandia Export, Suckut	59-16	12.0	2.67	2.30	1.78	6.76	15.7	
19	Alfa-GLF 59, F1826	59-23	11.4	2.69	2.35	1.78	6.82	15.7	
20	Alfa-Stock #1279-Sweden	59 59-32	12.8	2.93	2.33	1.72	6.98	16.3	
	Ave.	2.71		2.71	2.31	1.83	6.84	15.9	
	F - Entries	1.25-		1.25-	1.04-	1.51-	1.44-	3.04	
	L.S.D. (P=.05)	.25		.25	.26	.18	.45	.8	
	C.V.%	7.4		9.0	7.8		5.3	4.1	

Notes:

- (1) This is a quite uniform trial. Of interest, is the significant d.m. % difference picked up on June 7 between Alfa and DuPuits lots. Yields did not differ nor appearance to the eye, but D.M. indicated a 1-2 day difference in maturity at that time with the cool early June. Conditions were very good for measuring D.M. differences.

Table 73.--1960 Flemish Alfalfa Seed Source Test
Location: Snyder Field 1961 Data

Yield - Tons / Acre (12% M)

Random No.	Entry	Seed Class	N.Y. No.	1st cut 6/6	2nd cut 7/19	3rd cut	Total Season	% DM 6/6
1	DuPuits	Elite	60-9	2.96	2.27	1.88	7.12	15.8
2	DuPuits	Elite	60-10	2.83	2.48	2.15	7.46	15.2
3	DuPuits	Elite	59-1	2.78	2.34	2.07	7.19	15.2
4	DuPuits	Elite	59-2	2.79	2.47	1.99	7.26	15.5
5	DuPuits	Elite	58-45	2.79	2.51	2.15	7.44	15.0
6	DuPuits	Cert.	60-17	2.91	2.55	1.96	7.42	16.0
7	DuPuits	Cert.	59-22	2.92	2.41	1.86	7.18	15.3
8	W.R. Flemish	-	60-22	2.70	2.27	2.04	7.01	15.2
9	Alfa	Fd.	60-7	3.07	2.39	2.05	7.51	15.3
10	Alfa	Fd.	60-8	2.96	2.37	2.08	7.42	15.3
11	Alfa	Fd.	58-44	2.98	2.29	1.98	7.25	15.3
12	Alfa	Fd.	59-5	2.88	2.55	1.96	7.39	15.0
13	Alfa		60-15	2.84	2.46	2.11	7.41	15.1
14	Alfa		59-23	2.85	2.38	1.83	7.06	15.2
15	F.D. - 100		60-28	2.95	2.28	1.94	7.17	15.2
16	Socheville		59-24	2.91	2.46	2.03	7.40	15.2
17	GRR - 1		60-12	2.67	2.51	1.97	7.16	15.7
18	Flandria		60-6	2.97	2.43	2.18	7.59	15.3
19	NK - 505		59-4	2.61	2.41	1.87	7.10	15.2
Ave.								
F - Var.								
L.S.D. (P=.05)								
C.V. %								
				2.87	2.41	2.01	7.29	15.3
				1.73	1.03-	1.77-	1.48-	.91-
				.21	.25	.21	.40	.7
				6.0	8.3	8.7	4.2	3.9

Notes: Excellent production from very uniform and excellent stands.
Very little weed encroachment.

Table 74.--1958 Narragansett Seed Generation and Source Test
Location: Mc Gowan Field, Ithaca 1959-61 Data Summary
Management: 3 cuts/season

Random Number	Seed Class and Identity	N.Y. Seed Number	Yields - Tons per Acre (12 M)			Notes:
			1959	1960	1961	
1	High Seed Select - Wyo.	58-4	5.79	5.24	5.84	(1.) Entry No. 2 had three filler reps of 58-20. Entry No. 3 had one filler rep of 58-20.
2	Low Seed Select - Wyo.	58-5	6.42	5.64	6.16	(2.) Entries 7 and 12 are different years' production from the field where selections were made for seed production in 1957.
3	Breeders Seed, R.I. -1954	58-6	6.23	5.45	6.12	(3.) Performance of 1 and 12 believed associated with definite evidence for incidence of selfed seed set under field conditions.
4	Breeders Seed, R.I. -1957	58-7	6.12	5.40	6.20	(4.) Comparison of 7 vs. 12 suggests that different amounts of selfed seed produced under different pollinating and production conditions can cause some variation in variety performance. In differences of this kind, seed lot viability can also contribute to performance variation however.
5	Fd. - Utah - 1953	58-9	6.37	5.46	5.92	(5.) Comparison 1 vs. 2 is for bulked open-pollinated seed produced in the 1957 Wyoming Fd. field on the 2 groups of clones selected for high and low seed production. The ratio of selfed seed/crossed seed appears definitely higher for the clones selected for high seed production as judged by bulk lot performance.
6	Fd. - Idaho - 1953	58-10	6.46	5.71	6.00	
7	Fd. - Wyo. -1956	58-22	6.28	5.64	6.35	
12	Fd. - Wyo. - 1957	58-21	6.07	5.43	6.04	
8	Reg. Oreg. - 1957	58-8	6.55	5.53	6.21	
9	Reg. Idaho - 1957	58-11	6.75	5.71	6.04	
10	Reg. Idaho - 1957	58-13	6.32	5.42	5.62	
11	Reg. Idaho - 1957	58-12	6.65	5.46	5.93	
13	Reg. S. D k. -1957	58-15	6.50	5.58	5.92	
14	Cert. - 1957	58-19	6.10	5.47	6.02	
15	Cert. -1957	58-20	6.43	5.27	5.77	
16	Cert. Idaho - 1956	57-50	6.53	5.58	5.67	
	Average		6.35	5.50	5.99	
	F - Entries		1.72-	1.78-	1.57-	
	L.S.D (P =.05)		.52	.44	.29	
	C.V. %		7.2	4.6	6.5	
				F-ENT x YLS	1.29-	
	Ave. Breeders (2 lots)		6.17	5.42	6.16	
	Ave. Fd. (4 lots)		6.29	5.56	6.08	
	Ave. Reg. (5 lots)		6.55	5.54	5.94	
	Ave. Cert. (3 lots)		6.35	5.43	5.81	
				$\approx 2.50 =$	.14	
				for CLASSES		

Table 75.--1958 Narragansett Seed Generation and Source Test
Location: McGowan Field, Ithaca 1961 Data
Management: 3 cuts/season 6 replications

Random Number	Seed Class and Identity	N.Y Seed Number	Yield - Tons per Acre (12% M)		
			6/13	7/26	9/18 Total
1	High Seed Select - Wyo.	58-4	2.62	1.49	1.74 5.84
2	Low Seed Select - Wyo.	58-5	2.90	1.57	1.69 6.16
3	Breeders Seed, R.I.-1954	58-6	2.74	1.63	1.74 6.12
4	Breeders Seed, R.I. -1957	58-7	2.58	1.76	1.86 6.20
5	Fd. - Utah - 1953	58-9	2.77	1.52	1.64 5.92
6	Fd. - Idaho - 1953	58-10	2.68	1.58	1.75 6.00
7	Fd. - Wyo. - 1956	58-22	2.91	1.67	1.76 6.35
12	Fd. - Wyo.-1957	58-21	2.76	1.57	1.71 6.04
8	Reg. Oreg. - 1957	58-8	2.68	1.67	1.86 6.21
9	Reg. Idaho - 1957	58-11	2.85	1.54	1.65 6.04
10	Reg. Idaho - 1957	58-13	2.53	1.45	1.64 5.62
11	Reg. Idaho - 1957	58-12	2.48	1.64	1.76 5.93
13	Reg. S.Dak.- 1957	58-15	2.59	1.55	1.77 5.92
14	Cert. - 1957	58-19	2.67	1.58	1.77 6.02
15	Cert. - 1957	58-20	2.65	1.48	1.65 5.77
16	Cert. Idaho - 1956	57-50	2.41	1.57	1.68 5.67
Average			2.68	1.58	1.73 5.99
F - Entries			1.38-	1.47-	1.49-
L.S.D. (P=.05)			.32	.18	.16
C.V. %			10.5-	10.3	8.1
Ave. Breeders (2 lots)			2.66	1.69	1.80 6.16
Ave. Fd. (4 lots)			2.78	1.58	1.71 6.08
Ave. Reg. (5 lots)			2.65	1.57	1.74 5.94
Ave. Cert. (3 lots)			2.57	1.54	1.70 5.81

Notes:

1. Entry No. 2 had three filler reps of 58-20. Entry No. 3 had one filler rep of 58-20.
2. Planting was virtually weed-free. Some volunteer timothy in first cutting.
3. Entries 7 and 12 are different years' production from the field where selections were made for seed production in 1957.
4. Performance of 1 and 12 believed associated with rather definite evidence for incidence of selfed seed set under field conditions.

Table 76.--1960 Hi Seed Narragansett Breeders Seed Lots and Components Trial
Location: Snyder Field 1961 data

Rand No.	Entry	N.Y. No.	Total Yield- Tons/ Acre (12% M)				
			1st cut 6/13	2nd cut 7/08	3rd cut 9/5	Season Total	Notes:
1	PCP W-7		2.72	2.08	1.81	6.61	
2	" W-8		2.72	2.09	1.68	6.49	
3	" W-10		2.52	2.10	1.76	6.38	
4	" W-11		2.73	2.08	1.75	6.57	
5	" W-15		2.59	2.10	1.79	6.48	
6	PCP W-27		2.84	2.16	1.73	6.73	Notes: Very good growth and stand-all plots. Appreciable lodging at this yield level.
7	" W-30		2.81	2.24	1.80	6.86	
8	" W-32		2.71	2.13	1.81	6.65	
9	" W-42		2.83	2.25	1.82	6.90	
10	" W-43		2.48	2.14	1.73	6.34	
11	Bulk-Syn. 1	60-29	2.76	2.13	1.83	6.71	
12	Garden Syn. 2	60-23	2.52	2.09	1.80	6.42	
13	Calif. Syn. 2	60-20	2.85	2.20	1.71	6.76	
14	Palfer. Syn. 2	60-24	2.71	1.95	1.79	6.46	
15	W.Lamkin Syn. 2	60-25	2.64	2.21	1.82	6.67	
16	W. R. Narrag	60-21	2.94	2.13	1.68	6.75	
17	Narrag (Cert.)	59-19	2.84	2.18	1.77	6.79	
18	Narrag (Cert.)	60-14	2.83	2.18	1.75	6.76	
Ave.			2.72	2.14	1.77	6.63	
F-Entries			1.89*	1.06	.94	1.40-	
L.S.D (P=.05)			.27	.19	.14	.39	
C.V. %			8.5	7.9	6.8	5.3	

Table 77. - 1960 Atlantic Region of Adaptation Trial - Snyder Field

1961 Data

Random Number	Entry	Yield - Tons/Acre (12% M)				Season Total	adj. Total (lattice)
		N.Y. Number	6/7	7/20	9/11		
1	FC 32, 118	60-54	2.37	1.47	1.91	5.75	5.75
2	FC 32, 121	60-55	2.34	1.51	1.74	5.60	5.61
3	FC 32, 665	60-56	2.35	1.64	1.74	5.73	5.72
4	FC 32, 668	60-57	2.34	1.59	1.74	5.67	5.67
5	FC 33, 210	60-58	2.26	1.53	1.81	5.60	5.62
6	FC 33, 773	60-59	2.51	1.46	1.70	5.67	5.68
7	FC 33, 782	60-60	2.40	1.50	1.79	5.68	5.68
8	FC 35, 282	60-61	2.45	1.43	1.84	5.71	5.74
9	FC 35, 283	60-62	2.24	1.59	1.84	5.66	5.65
10	FC 35, 284	60-63	2.38	1.44	1.69	5.52	5.52
11	FC 35, 285	60-64	2.33	1.48	1.71	5.52	5.51
12	FC 35, 286	60-65	2.27	1.62	1.83	5.73	5.70
13	FC 35, 287	60-66	2.41	1.62	1.67	5.71	5.73
14	FC 35, 288	60-67	2.35	1.48	1.76	5.59	5.59
15	FC 35, 289	60-68	2.22	1.42	1.78	5.42	5.40
16	FC 34, 716	60-69	2.34	1.53	1.75	5.62	5.59
	Average		2.35	1.52	1.76	5.64	5.64
	F-Varieties	.91-	2.32*		.70-	.61-	
	L.S.D. (P=.05)	.22	.13		.22	.33	.33
	C.V. %	7.5	7.1		9.7	4.7	
	EFFIC.						102.3%

Table 78.--1960 Ranger Region of Adaptation Test - Snyder Field
1961 Data

Random Number	Entry	N.Y. No.	Total Yield - Tons/Acre (12% M)			Season Total	Adj. Total (Lattice)
			6/7	7/20	9/11		
1	FC 32,119	60-30	1.98	1.76	1.51	5.25	5.24
2	FC 32,120	60-31	1.95	1.76	1.46	5.17	5.18
3	FC 32,131	60-32	2.04	1.73	1.42	5.19	5.19
4	FC 32,669	60-33	1.89	1.93	1.51	5.32	5.33
5	FC 32,693	60-34	1.99	1.88	1.47	5.33	5.33
6	FC 32,786	60-35	1.91	1.82	1.50	5.24	5.25
7	FC 32,787	60-36	1.95	1.89	1.48	5.32	5.32
8	FC 32,788	60-37	1.95	1.92	1.50	5.37	5.36
9	FC 32,789	60-38	1.93	1.82	1.49	5.24	5.23
10	FC 32,790	60-39	1.88	1.73	1.48	5.09	5.10
11	FC 33,290	60-40	1.98	1.80	1.54	5.32	5.32
12	FC 33,836	60-41	2.00	1.73	1.50	5.23	5.23
13	FC 33,837	60-42	2.05	1.89	1.43	5.37	5.37
14	FC 33,838	60-43	1.92	1.87	1.59	5.37	5.37
15	FC 34,193	60-44	2.19	1.78	1.57	5.54	5.54
16	FC 34,194	60-45	1.91	1.86	1.56	5.33	5.33
17	FC 34,959	60-46	2.00	1.72	1.46	5.19	5.19
18	FC 35,290	60-47	2.00	1.83	1.50	5.33	5.31
19	FC 35,291	60-48	2.06	1.87	1.52	5.44	5.44
20	FC 35,292	60-49	2.01	1.84	1.50	5.35	5.35
21	FC 35,293	60-50	1.98	1.83	1.45	5.26	5.26
22	FC 35,294	60-51	1.96	1.73	1.46	5.17	5.17
23	FC 35,362	60-52	1.96	1.89	1.55	5.39	5.39
24	FC 34,628	60-53	1.97	1.80	1.51	5.27	5.26
25	Cert.	60-13	2.05	1.83	1.59	5.46	5.44
		Average	1.99	1.82	1.50	5.31	5.31
		F - Varieties	.94-	1.26-	.68-	.81-	.81-
		L.S.D. (P=.05)	.19	.16	.15	.32	.32
		C.V. %	8.3	7.6	9.0	5.3	5.3
		EFFIC. (%)					100.5%

Table 79.--1960 Alfalfa Demonstration Trial -Caldwell IV

Fall Seeding 18# / Acre 1961 data

Management: 2 Cuts in 1961

(12% M)

Random No.	Entry	N.Y. No.	Total Yield- Tons/Acre	1st cut 6/29	2nd cut 8/11	Season Total	% DM 6/29
1	Vernal	60-26	3.13	3.13	1.65	4.78	22.1
2	Narragansett	60-14	2.81	2.81	1.61	4.42	20.8
3	DuFuits	60-17	3.20	3.20	1.96	5.16	20.8
4	Alfa	60-15	3.22	3.22	1.94	5.16	20.1
5	Ranger	60-13	2.61	2.61	1.60	4.20	22.2
6	N.Y. Syn. B	60-19	2.74	2.74	1.64	4.38	21.6
7	H S Narrag.-Calif.	60-20	3.35	3.35	1.58	4.93	21.6
8	H S Narrag.-Garden	60-23	3.10	3.10	1.68	4.79	21.3
9	H S Narrag.-Helfer	60-24	3.14	3.14	1.58	4.72	21.1
10	W R Narrag.	60-21	3.18	3.18	1.69	4.88	20.9
11	W R Flemish	60-22	3.10	3.10	1.80	4.90	21.1
12	N.Y. Syn. A	60-18	2.83	2.83	1.65	4.48	21.8
Ave.							
F-Entries				3.03	1.70	4.33	21.3
L.S.D. (P=.05)				4.67 *	10.07 **	6.65 **	1.75 -
C.V. (%)				30	112	133	113
				9.2	6.5	6.6	5.7

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Notes: (1) This trial is on good alfalfa site and would support much greater cutting intensity. On 1st cut date, alfalfa was heavy and lodged. The response to the fall seeding at a heavy seeding rate and easy cutting management is somewhat different for the entries than that observed in the extensive 1960 test series.

In the search for resistance to the alfalfa weevil, efforts have been concentrated on screening for resistance to oviposition by the adult weevil. Individual plants of MS B(59), *M. sativa*, and Acc. 59-7, *M. gaetula*, were vegetatively propagated and included in a greenhouse experiment to determine resistance to oviposition. Four replications of a randomized complete block design were used with each plant being included once in each replication. Results shown in table 80 indicate that the *M. gaetula* plants were consistently lower in foliage damage by adults, lower in percent pith in the stem, had fewer eggs per cluster, and fewer eggs per inch of stem. These results confirm results obtained in a preliminary test reported at the Eastern Alfalfa Improvement Conference in 1961.

Results of a study comparing seven cycles of phenotypic recurrent selection in each of two pools of alfalfa germ plasm are shown in tables 81 and 83. Approximately 90 plants were selected from 2,000 in each pool in each cycle on the basis of disease and insect reaction. An effort was made to maintain a diversity of plant types. Fourteen replications of 10 plant plots produced from remnant seed of each of the cycles were grown at each of two locations in N. Carolina. Plants were spaced on 40-inch centers. Significant increases in leafhopper yellowing resistance were observed in each pool at each location. Significant increases in rust resistance were also obtained. Significant increases in weight per plant were observed for pool A at both locations and for pool B at the Clayton location. Percent survival after two summers increased in pool B but not in pool A. Spring growth in pool A did not change with selection but in pool B there was a slight decrease in spring growth. For recovery after cutting, pool A increased from early cycles to late cycles at Clayton and decreased slightly at Rowan. In pool B, there was a decrease in recovery height at both locations. There was no difference between cycles for fall growth habit means for pool A at either location. In pool B, fall growth increased from the second to the third or fourth cycle and then decreased. Little change in plant height at the time of cutting was observed in either pool at either location. These data indicate that phenotypic recurrent selection for disease and insect resistance can be carried on successfully without reducing the vigor of the population.

Table 90. -Average percent foliage damage by adults, percent pith in stem, number of eggs per cluster, and number of eggs per inch of stem for individual Medicago sativa and M. gaetula plants.

Entry	% foliage damage	% pith in stem	Eggs per cluster	Eggs per inch of stem
MS B(59)-2	87	72.2	9.7	8.3
" " -3	50	68.9	10.6	10.2
" " -4	79	67.8	9.8	13.5
" " -6	44	68.1	12.4	12.9
MS B(59)-10	64	71.7	8.6	4.2
" " -11	38	70.1	5.5	2.6
" " -12	77	78.5	11.0	11.3
" " -13	64	75.2	11.0	6.5
MS B(59)-14	40	73.4	12.4	6.2
" " -15	12	67.5	14.1	11.3
" " -16	38	73.3	12.0	9.0
" " -17	40	74.6	9.9	8.1
MS B(59)-18	35	69.6	12.5	13.2
" " -19	26	70.2	10.5	7.9
" " -20	60	74.6	10.2	8.2
" " -21	18	74.2	6.5	6.2
MS B(59)-23	41	76.2	10.0	6.5
" " -24	36	68.0	12.9	13.1
" " -26	11	70.9	12.7	8.9
" " -27	17	71.2	6.6	6.4
MS B(59)-29	79	75.8	11.7	10.8
" " -32	20	83.2	12.0	13.0
" " -35	42	70.4	11.8	12.1
Average of <u>M. sativa</u> entries	44	72.4	10.6	9.1
Acc. 59-7-2	4	38.8	3.0	0.5
" " -3	4	32.4	3.6	1.0
" " -4	17	43.5	4.8	2.1
" " -5	31	37.5	2.5	0.6
Acc. 59-7-6	14	37.1	4.4	2.7
" " -9	31	57.2	5.9	2.0
Average of <u>M. gaetula</u> entries	17	41.1	4.0	1.5
LSD (0.05)		13.4	5.6	8.2
LSD (0.01)		17.8	7.4	10.9
CV (%)		14.6	42.0	74.0

Table 81. Dry weight in grams per plant, leafhopper yellowing score^{1/} data, and % survival from two locations for 7 cycles of selection in pool A and pool B.

Pool	Cycle	Weight		Leafhopper yellowing		% survival	
		Clayton 4/18/61	Rowan 4/28/61	Clayton 8/1/61	Rowan 8/18/61	Clayton 10/10/61	Rowan 10/11/61
A	2	96.2	146.4	6.9	6.7	55.1	75.0
	3	100.6	163.9	6.9	6.5	60.0	84.3
	4	94.0	165.3	6.6	6.8	84.5	79.5
	5	112.8	149.2	6.5	6.6	74.5	79.1
	6	110.9	169.9	6.2	6.1	56.9	67.0
	7	121.7	166.5	5.7	5.9	71.9	73.2
	8	131.2	177.5	5.8	5.7	65.0	76.1
B	2	84.6	163.5	7.1	7.0	50.7	62.7
	3	83.6	154.3	6.7	6.8	62.1	57.3
	4	89.5	156.4	6.9	7.0	59.3	76.6
	5	107.1	164.8	6.7	6.5	69.8	78.3
	6	111.1	162.0	6.5	6.3	59.3	71.6
	7	111.3	162.6	5.7	5.7	65.0	68.4
	8	115.4	162.3	5.3	5.3	63.6	70.8
LSD (0.05)		17.9	18.6	0.8	0.4		
" (0.01)		23.8	24.5	1.1	0.6		
CV (%)		23.5	15.6	17.1	9.5		

^{1/} Scores were from 1 to 9, 1 being least yellowing.

Table 82.-Spring growth, recovery after cut, and fall growth means in inches for two locations for 7 cycles of selection in pool A and pool B.

Pool	Cycle	Spring Growth		Recovery		Fall Growth	
		Clayton 3/15/61	Rowan 3/16/61	Clayton 5/9/61	Rowan 5/16/61	Clayton 10/10/61	Rowan 10/11/61
A	2	10.6	8.8	16.6	15.0	6.9	6.3
	3	11.1	8.8	17.1	15.4	6.5	6.6
	4	10.8	8.9	17.0	15.5	7.0	5.9
	5	11.5	9.2	18.4	14.3	6.9	6.3
	6	11.0	9.4	17.2	15.0	6.6	6.1
	7	11.7	8.9	17.7	14.8	6.7	6.3
	8	11.1	8.8	17.7	14.6	6.6	6.6
B	2	10.9	10.0	17.6	16.4	7.5	7.2
	3	12.3	10.0	18.5	16.6	7.0	7.8
	4	10.8	9.4	18.0	16.7	8.1	8.0
	5	11.6	9.1	19.2	16.2	7.9	8.5
	6	10.9	8.5	18.2	15.3	7.5	6.8
	7	10.6	8.3	17.1	15.8	7.3	6.1
	8	10.2	8.1	17.3	15.6	6.4	7.0
LSD (0.05)		1.0	0.6	0.7	0.7	0.7	1.0
" (0.01)		1.3	0.8	1.0	1.0	0.9	1.3
CV (%)		12.0	8.7	5.7	6.4	12.1	17.6

Table 83.-Mean plant height in inches, by cuttings, from two locations for 7 cycles of selection in pool A and pool B.

Pool	Cycle	First Cut		Second Cut		Third Cut		Fourth Cut	Total	
		Clayton 4/18/61	Rowan 4/27/61	Clayton 5/25/61	Rowan 6/6/61	Clayton 6/20/61	Rowan 7/7/61	Clayton 8/1/61	Clayton	Rowan
A	2	15.7	18.4	26.4	27.9	23.0	26.8	19.7	84.8	73.1
	3	16.2	18.6	26.8	28.3	23.2	27.6	19.6	85.8	74.5
	4	15.3	18.3	26.4	28.6	22.5	28.1	19.9	84.1	75.0
	5	17.1	18.2	28.2	26.4	23.6	26.3	20.7	89.6	70.9
	6	16.8	19.3	27.5	27.8	22.8	28.3	18.7	85.5	75.4
	7	17.7	19.9	28.4	29.7	23.2	28.8	19.0	88.3	78.4
	8	17.1	18.8	27.5	28.7	23.1	28.1	18.8	86.5	75.6
B	2	15.8	19.7	27.9	30.7	24.4	28.5	20.3	88.4	78.9
	3	17.2	19.8	27.8	30.2	24.5	29.3	20.4	89.9	79.3
	4	16.5	19.7	28.9	30.5	24.6	28.8	21.2	91.2	79.0
	5	17.6	19.2	29.5	31.1	25.3	29.3	21.8	94.2	79.6
	6	16.3	19.1	28.7	29.4	24.0	27.2	19.5	88.5	75.7
	7	16.4	18.8	27.8	29.6	23.3	29.1	20.0	87.5	77.5
	8	16.4	19.8	28.6	30.5	22.9	29.4	19.5	87.4	79.7
LSD (0.05)		1.4	1.3	1.5	1.7	1.0	1.4	1.4		
" (0.01)		1.9	1.7	1.9	2.2	1.4	1.8	1.8		
CV (%)		11.5	9.0	7.1	7.7	5.8	6.5	9.2		

PENNSYLVANIA--CENTRE HALL

Table 84.--NE-28 Alfalfa Variety and Synthetics Test.

Date Seeded May, 1960

Six replications for each of two managements

Location: Centre Hall, Pa. 1961 Data

Mgt. 3 cut--Severe			Total Yield--Tons/Acre (12%M)			
Random		N.Y.	1st cut	2nd cut	3rd cut	Season
Number	Entry	No.	6/2	7/7	8/28	Total
1	N.Y. Syn. A.	60-18	1.57	1.03	1.48	4.08
2	N.Y. Syn. B	60-19	1.60	1.05	1.47	4.12
3	H.S. Narrag.	60-20	1.67	1.00	1.40	4.08
4	W.R. Narrag.	60-21	1.81	.93	1.45	4.20
5	W.R. Flemish	60-22	1.73	1.11	1.56	4.39
6	Atlantic	60-27	1.54	1.01	1.45	4.00
7	Narrag.	60-14	1.74	1.12	1.48	4.34
8	Vernal	60-26	1.72	1.01	1.41	4.14
9	DuPuits	60-17	1.74	1.09	1.55	4.38
	Ave.		1.68	1.04	1.47	4.19
	F-Varieties		1.82-	1.39-	1.00-	2.10-
	L.S.D. (P = .05)		----	----	----	----
	C.V. (%)		9.8	12.2	9.1	5.8

Mgt. 3 cut--Moderate

		1st cut	2nd cut	3rd cut	Season
		6/12	7/25	9/	Total
1	N.Y. Syn. A	2.27	1.01	1.00	4.28
2	N.Y. Syn. B	2.25	1.10	1.07	4.43
3	H.S. Narrag.	2.48	1.07	1.02	4.57
4	W.R. Narrag.	2.36	1.00	.97	4.32
5	W.R. Flemish	2.28	1.22	1.21	4.70
6	Atlantic	2.27	1.02	1.04	4.33
7	Narrag.	2.37	1.14	1.00	4.51
8	Vernal	2.36	1.10	.97	4.43
9	DuPuits	2.17	1.22	1.10	4.49
	Ave.	2.31	1.10	1.04	4.45
	F-Varieties	1.05-	4.71**	5.88**	1.38-
	L.S.D. (P = .05)	----	.08	.06	----
	C.V. (%)	9.2	8.6	7.5	6.3

PENNSYLVANIA--COATESVILLE (Chester Co.)

Table 85.-Alfalfa variety trial. Date seeded--August 25, 1960. Six replications.
Randomized block design. Seeding rate--50 viable seeds per ft.².
Broadcast. Location: Coatesville, Pa.

	Yield--Tons of dry matter per acre			Total
	1st cut	2nd cut	3rd cut	
1 Cody	1.88	1.55	1.22	4.64
2 DuPuits	1.91	1.89	1.40	5.20
7 Alfa	1.85	1.86	1.48	5.19
8 Vernal	1.65	1.48	1.16	4.30
10 Teton	.90	1.17	.84	2.91
11 Buffalo	1.73	1.59	1.40	4.72
12 Atlantic	1.79	1.60	1.27	4.66
13 Narragansett	1.86	1.72	1.29	4.87
Ave.	1.69	1.60	1.26	4.55
L.S.D. (.05)	.25	.26	.14	.38
L.S. D. (.01)	.34	.35	.19	.51
	**	**	**	**
F. Value for varieties	14.28	6.26	15.39	28.40
C.V.	12.79%	14.09%	9.72%	7.37%

Table 86. Alfalfa variety trial. Date seeded--May 1957. Four replications.
 Randomized block design. Seeding rate--50 viable seeds per ft.².
 Broadcast. Location: Ligonier, Pa. (SW Field Research Lab.)

	Yield--Tons of dry matter per acre				
	3 cuts 1958	3 cuts 1959	3 cuts 1960	2 cuts 1961	11 cuts 4 yr. Ave.
8 DuPuits	3.61	3.76	2.64	2.43	3.11
9 Nomad	2.56	3.10	1.24	1.74	2.16
10 Buffalo	3.12	3.32	2.15	2.05	2.66
11 Ranger	2.90	3.10	2.09	2.13	2.56
12 Vernal	3.20	3.54	2.49	2.24	2.87
13 Narragansett	3.20	3.64	2.72	2.22	2.94
14 Atlantic	3.04	3.56	2.59	2.09	2.82
15 Alfa	3.38	3.69	2.51	2.18	2.94
16 Tourneur 501	3.26	3.55	2.52	2.15	2.87
Ave.	3.16	3.48	2.34	2.14	2.78
L.S.D. (.05)	.28	.36	.25	----	----
L.S.D. (.01)	.38	.48	.33	----	----
	**	**	**	N.S.	**
F. Value for var.	8.80	3.62	23.10	1.37	19.10
C.V. (%)	10.92%	7.36%	7.44%	14.67%	

TENNESSEE - Knoxville

Table 87.--Alfalfa variety trial, Tennessee Agricultural Experiment Station

Location: Knoxville, Tennessee	Plot Size: 6' x 60'
Design: Randomized block	Planting Date: 9/10/60
Method of Seeding: Broadcast	Reps: 4
Soil Type: Cumberland loam (2% to 5% slopes)	Year: 1961

Entry	1st Cut	2nd Cut	3rd Cut	Total
Tons of air-dry hay per acre				
N. C. Syn. G(57)3	1.41	1.40	0.65	3.46
FD-100	1.50	1.32	0.42	3.24
Narragansett	1.36	1.30	0.56	3.22
Rhizoma F.C. 34035	1.32	1.34	0.47	3.13
Buffalo	1.26	1.18	0.66	3.10
Socheville	1.15	1.37	0.58	3.10
N. C. Syn. G(57)2	1.12	1.23	0.60	2.95
DuPuits	0.91	1.29	0.70	2.90
Williamsburg	1.04	1.21	0.64	2.89
N. C. Syn. E(58)	1.09	1.29	0.49	2.87
N. C. Syn. F(56)1	0.96	1.34	0.51	2.81
Maliani	1.12	1.00	0.60	2.72
Vernal	1.20	0.98	0.46	2.64
Lahontan	1.16	0.69	0.66	2.51
Ranger F. C. 34628	1.08	0.74	0.62	2.44
Zia	0.99	0.49	0.49	1.97
C.V.				16.4%
L.S.D. (.05)				0.67

Table 88.---1961 Summary NE-28 Alfalfa Variety and Synthetic Trials - 1960

Mgt.: 3 cuts, moderate		Total Season Yields - Tons/Acre (12M)											
Random Number	Entry	N.Y. No.	Locations: No. Cuts:	N.Y. (Ithaca)	N.Y. (Orange)	Pa.	Ms. (Orond)	Conn.	E.I.	Md.	W.Va.	Regional Average	
1	N.Y. Syn. A	60-18		4.05	4.88	5.02	4.28	4.77	4.03	2.01	5.14	4.15	4.26
2	N.Y. Syn. B	60-19		3.92	5.08	5.22	4.43	4.91	3.90	1.84	4.81	4.21	4.26
3	H.S. Narrag.	60-20		4.26	4.76	5.28	4.57	4.90	4.18	2.51	5.22	4.12	4.42
4	W.R. Narrag.	60-21		4.31	4.89	5.16	4.32	4.84	4.26	3.48	5.17	4.11	4.50
5	W.R. Flemish	60-22		4.47	5.32	5.79	4.70	4.93	4.22	2.01	5.39	4.54	4.60
6	Atlantic	60-27		3.84	4.96	4.89	4.33	4.90	4.12	2.04	4.85	4.00	4.21
7	Narrag.	60-14		4.36	5.07	5.22	4.51	4.78	4.36	2.52	5.05	4.17	4.45
8	Vernal	60-26		4.24	5.01	5.25	4.43	4.88	4.05	1.87	4.92	4.03	4.30
9	DuPuits	60-17		4.97	5.38	5.89	4.49	4.79	4.33	2.28	5.19	4.37	4.63
Average				4.27	5.04	5.30	4.45	4.85	4.16	2.29	5.08	4.19	4.40
F - Varieties				5.20**	1.34-	5.48**	1.38-	.13-	.69-	4.66**	2.15**		
L.S.D. (P=.05)				.30	.36	.28	.22	.35	.36	.48	.26		
C.V. (%)				8.4	8.6	6.5	6.3	8.7	10.7	25.5	6.2		
Mgt.: 2 cuts, moderate		Total Season Yields - Tons/Acre (12M)											
Random Number	Entry	N.Y. No.	Locations: No. Cuts:	N.Y. (Chenango)	Ms. (P. Isle)	N.Y. (Aurora)	Regional Average						
1	N.Y. Syn. A	60-18		5.43	3.91	3.66	3.74	4.29					
2	N.Y. Syn. B	60-19		5.66	3.98	3.71	3.64	4.28					
3	H.S. Narrag.	60-20		5.77	4.28	3.89	3.69	4.47					
4	W.R. Narrag.	60-21		5.74	4.08	3.90	3.68	4.38					
5	W.R. Flemish	60-22		6.18	4.44	3.98	3.75	4.63					
6	Atlantic	60-27		5.59	4.26	3.67	3.65	4.36					
7	Narrag.	60-14		5.75	3.78	3.72	3.70	4.35					
8	Vernal	60-26		5.71	4.50	3.48	3.81	4.48					
9	DuPuits	60-17		6.54	4.34	3.93	3.93	4.74					
Average				5.81	4.17	3.77	3.73	4.44					
F - Varieties				7.59**	3.84**	1.32-	.74-						
L.S.D. (P=.05)				.24	.26	.28	.22						
C.V. (%)				7.2	7.5	9.2	6.9						

Table 88.--1961 Summary of Alfalfa Variety and Synthetics Trials - 1960 (Continued)

Total Season Yields - Tons/ Acre (12%M)													
Mgt.: 3 cuts, severe		N.Y.		N.Y.		N.Y.		N.Y.		N.Y.		N.Y.	
Random	Entry	No.	Location:	Lewis	Orange	Ithaca.	Fa.	Crono	Conn.	R.I.	Md.	W.Va.	Regional
Number			No. Cuts:	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(4)	(3)	Average
1	N.I. Syn. A	60-18		3.23	4.05	4.73	4.08	4.13	3.73	1.68	5.31	4.92	3.98
2	N.Y. Syn. B	60-19		3.52	4.04	4.30	4.12	4.41	3.33	1.83	5.15	4.72	3.94
3	H.S. Narrag.	60-20		3.45	4.02	4.74	4.08	4.71	4.09	1.98	5.36	4.62	4.12
4	W.R. Narrag.	60-21		3.77	3.87	4.77	4.20	4.48	3.88	2.75	5.17	4.86	4.19
5	W.R. Flemish	60-22		3.93	3.94	4.92	4.39	4.57	3.87	2.36	5.93	4.71	4.29
6	Atlantic	60-27		3.26	4.11	4.72	4.00	4.40	3.49	1.53	5.38	4.49	3.93
7	Narrag.	60-14		3.61	4.17	4.58	4.34	4.67	4.10	1.84	5.43	4.68	4.14
8	Vernal	60-26		3.52	4.15	4.78	4.14	4.41	3.62	1.93	5.32	4.55	4.05
9	DuPuits	60-17		3.97	4.09	5.23	4.38	4.78	4.22	2.15	5.89	4.77	4.39
	Average			3.59	4.06	4.75	4.19	4.51	3.82	2.01	5.44	4.70	4.12
	F - Varieties			5.23**	.42	2.70*	2.10	2.22*	4.86**	3.47**	5.63**		
	L.S.D. (F=.05)			.24	.27	.30	.20	.26	.27	.38	.24		
	C.V. (%)			7.9	8.3	7.8	5.8	7.2	8.7	24.2	5.4		

Table 89.---NE-28 Alfalfa Varieties and Synthetics-1960
Location: Lewis Co., N.Y. 1961 Data

Mgt. 3 cut severe Random		N.Y. No.	Total Yield - Tons/Acre (12% M)					% D.M.		% Stand-9/8
			1st cut 6/2	2nd cut 7/11	3rd cut 8/24	Season Total		6/2	7/11	8/24
1	N.Y. Syn. A	60-18	1.23	.82	1.18	3.23		17.6	17.7	22.0
2	N.Y. Syn. B	60-19	1.40	.89	1.22	3.52		17.3	17.7	21.3
3	H.S. Narrag.	60-20	1.39	.92	1.15	3.45		17.4	17.7	21.9
4	W.R. Narrag.	60-21	1.59	.91	1.28	3.77		16.1	16.4	22.0
5	W.R. Flemish	60-22	1.62	1.06	1.26	3.93		17.2	16.8	21.1
6	Atlantic	60-27	1.26	.86	1.13	3.26		17.8	18.9	21.8
7	Narrag.	60-14	1.46	.93	1.22	3.61		17.2	16.8	21.5
8	Vernal	60-26	1.42	.87	1.23	3.52		17.2	17.4	21.4
9	DuPuits	60-17	1.61	1.08	1.28	3.97		17.6	17.1	21.6
Average			1.44	.93	1.22	3.59		17.2	17.4	21.6
F - Varieties			5.45**	3.60**	2.97**	5.23**		2.67*	1.95-	1.83
L.S.D. (P=.05)			.12	.10	.06	.24		.5	.15	.6
C.V. (%)			10.3	12.3	6.2	7.9		4.1	7.4	3.9

Mgt. 3 cut; moderate Random		N.Y. No.	Total Yield - Tons/Acre (12% M)					% D.M.		% Stand-9/8
			1st cut 6/13	2nd cut 7/25	3rd cut 9/8	Season Total		6/13	7/25	9/8
1	N.Y. Syn. A	60-18	2.00	1.14	.91	4.05		18.1	15.8	20.5
2	N.Y. Syn. B	60-19	1.92	1.12	.88	3.92		17.7	16.7	21.3
3	H.S. Narrag.	60-20	2.17	1.21	.88	4.26		17.9	15.7	20.5
4	W.R. Narrag.	60-21	2.20	1.25	.85	4.31		17.1	15.5	20.6
5	W.R. Flemish	60-22	2.21	1.28	.98	4.47		18.1	16.1	20.9
6	Atlantic	60-27	1.94	1.04	.86	3.84		18.0	15.6	21.0
7	Narrag.	60-14	2.18	1.24	.94	4.36		18.0	15.7	20.8
8	Vernal	60-26	2.13	1.23	.88	4.24		18.0	16.6	20.5
9	DuPuits	60-17	2.39	1.47	1.11	4.97		18.0	16.1	20.9
Average			2.13	1.22	.92	4.27		17.9	16.0	20.8
F - Varieties			3.35**	3.10**	2.73**	5.20**		1.96-	1.14-	1.10-
L.S.D. (P=.05)			.16	.14	.05	.30		.6	.8	.5
C.V. (%)			9.4	13.8	6.9	8.4		4.2	6.3	3.2

Table 90.--NE-28 Alfalfa Varieties and Synthetics Test-1960
Location: Westtown, N.Y. (Orange Co.) 1961 Data

Mgt. : 3 cut, severe		Total Yield = T/A - (12 % Moisture)					Ave. % D.M.		
Random Number	Entry	N.Y. No.	1st cut 6/2	2nd cut 7/11	3rd cut 8/23	Season Total	6/2	7/11	8/23
1	N.Y. Syn. A	60-18	1.99	1.02	1.04	4.05	18.3	25.5	14.2
2	N.Y. Syn. B	60-19	1.85	1.23	.97	4.04	18.7	25.3	14.3
3	H.S. Narrag.	60-20	1.92	1.11	.99	4.02	17.7	25.1	13.8
4	W.R. Narrag.	60-21	1.90	1.01	.96	3.87	18.3	23.9	12.9
5	W.R. Flemish	60-22	2.00	1.10	.96	3.94	18.7	24.9	14.1
6	Atlantic	60-27	1.99	1.07	1.06	4.11	18.9	26.0	14.9
7	Narrag.	60-14	2.00	1.10	1.07	4.17	18.5	24.7	15.5
8	Vernal	60-26	2.03	1.19	.93	4.15	18.1	23.5	13.8
9	DuPuits	60-17	1.91	1.27	.92	4.09	16.8	26.2	14.4
	Ave.		1.95	1.12	.99	4.06	18.2	25.0	14.2
	F-Varieties		.62	1.32	1.42		1.44	1.25	1.71
	L.S.D. (P=.05)		.16	.16	.10		1.1	1.6	1.2
	C.V. (%)		9.5	17.2	11.4		7.4	7.9	9.7
Mgt. : 3 cut, normal									
			1st cut 6/12	2nd cut 7/25	3rd cut 9/6	Season Total	6/12	7/25	9/6
1	N.Y. Syn. A		2.25	1.45	1.18	4.88	21.7	19.6	20.0
2	N.Y. Syn. B		2.24	1.71	1.13	5.08	21.3	20.7	20.3
3	H.S. Narrag.		2.23	1.50	1.03	4.76	20.7	18.8	19.2
4	W.R. Narrag.		2.28	1.51	1.11	4.89	20.8	19.4	19.8
5	W.R. Flemish		2.37	1.59	1.35	5.32	22.0	20.9	21.4
6	Atlantic		2.28	1.60	1.08	4.96	21.0	20.0	20.4
7	Narrag.		2.32	1.58	1.18	5.07	21.0	19.2	19.7
8	Vernal		2.41	1.48	1.12	5.01	21.8	19.3	20.4
9	DuPuits		2.41	1.66	1.31	5.38	21.8	20.5	21.2
	Ave.		2.31	1.56	1.16	5.04	21.3	19.8	20.3
	F-Varieties		.42	.79	5.90*	1.34	.38	1.82	2.72*
	L.S.D. (P=.05)		.52	.20	.09	.36	1.6	1.1	.8
	C.V. (%)		11.7	15.1	9.1	8.6	9.0	6.7	5.1

Table 91.--NE-28 Alfalfa Varieties and Synthetics - 1958
Location: Ithaca (McGowan) 1961 Data

Random Number	Entry	Total Yield - T/A - 12% Moisture				Ave. D.M.		
		1st cut		2nd cut	3rd cut	Season Total	6/7	7/18
		6/7	7/18	8/31	8/31			
36	Indiana Syn. F	-	-	-	-	-	-	-
37	New York A	2.64	2.00	1.73	6.37	6.37	16.4	15.9
38	New York B	2.68	1.79	1.70	6.17	6.17	16.3	15.7
39	New York C	-	-	-	-	-	-	-
40	Syn. A-242	-	-	-	-	-	-	-
41	Buffalo	2.31	1.58	1.41	5.31	5.31	14.9	15.3
42	Williamsburg	2.49	1.76	1.31	5.57	5.57	15.8	15.4
43	Lahontin	2.46	1.67	1.38	5.51	5.51	15.2	16.0
44	Ranger	2.44	1.63	1.45	5.53	5.53	14.8	16.0
45	Atlantic	2.51	1.54	1.68	5.73	5.73	16.2	15.9
46	DuPuits	2.64	1.69	1.56	5.90	5.90	16.8	16.0
47	Narragansett	2.36	1.39	1.52	5.27	5.27	15.1	15.4
48	Vernal	2.39	1.77	1.65	5.82	5.82	15.7	15.8
49	Rambler	-	-	-	-	-	-	-
50	NK-501	2.45	1.79	1.72	5.96	5.96	16.4	16.5
51	Alfa	2.39	1.71	1.63	5.73	5.73	15.6	15.2
52	Moapa	1.86	1.12	1.38	4.36	4.36	15.8	17.4
	Average	2.44	1.65	1.55	5.63	5.63	15.8	15.9
	F - Varieties	8.24**	3.88**	1.24-	5.80**	5.80**	5.32**	1.46-
	L.S.D. (P = .05)	.14	.22	.26	.42	.42	.6	.8
	C.V. %	6.6	15.0	19.2	8.2	8.2	3.8	6.7
	Ave. D.M.%	15.8	15.9	21.8				4.6

Notes: (1) D.M. determinations on 6/7 and 8/31 are accurate for comparison, on 7/18 harvest made while foliage was wet.

(2) Wilt symptoms and some loss of stand evident on Flemish strains in 3rd harvest.

Table 92.--NE-28 Alfalfa Varieties and Synthetics Test-1960
Location: Ithaca, N.Y. - Pulleyn 1961 Data

Random Number	Mgt. & 3 cut, severe	N.Y.	Total Yield - T/A - 12% Moisture				Ave. % D.M.	
			1st cut	2nd cut	3rd cut	Season Total	6/2	7/11 8/24
1	N.Y. Syn. A	60-18	2.10	1.24	1.39	4.73	17.2	18.9 20.1
2	N.Y. Syn. B	60-19	1.87	1.17	1.26	4.30	16.5	20.5 21.2
3	H.S. Narrag.	60-20	2.07	1.31	1.37	4.74	16.1	19.2 20.8
4	W.R. Narrag.	60-21	2.28	1.15	1.35	4.77	14.9	19.5 20.8
5	W.R. Flemish	60-22	2.07	1.42	1.43	4.92	17.5	20.1 21.3
6	Atlantic	60-27	2.00	1.33	1.41	4.72	16.4	19.5 20.5
7	Narrag.	60-14	1.96	1.27	1.35	4.58	16.0	19.0 20.8
8	Vernal	60-26	2.22	1.27	1.30	4.78	17.0	19.3 20.1
9	DuPuits	60-17	2.17	1.52	1.54	5.23	17.0	20.5 21.4
Ave.								
			2.08	1.30	1.38	4.75	16.5	19.6 20.8
F-Varieties			2.52*	4.40**	3.08**	2.70*	4.13**	2.69* 1.36-
L.S.D. (P = .05)			.16	11	.09	.30	.18	.18
C.V. (%)			9.6	10.5	8.1	7.8	5.7	4.7 4.9
Mgt. & 3 cut, normal								
			1st cut	2nd cut	3rd cut	Season Total	Ave. % D.M.	
			6/2	7/26	9/7	Total	6/12	7/26 9/7
1	N.Y. Syn. A		2.64	1.24	1.14	5.02	18.1	19.1 21.1
2	N.Y. Syn. B		2.71	1.26	1.25	5.22	17.7	18.7 21.8
3	H.S. Narrag.		2.61	1.40	1.27	5.28	17.0	18.4 21.2
4	W.R. Narrag.		2.79	1.26	1.11	5.16	16.7	18.2 21.2
5	W.R. Flemish		2.73	1.58	1.48	5.79	18.0	19.3 22.3
6	Atlantic		2.51	1.21	1.17	4.89	18.0	19.2 21.5
7	Narrag.		2.64	1.33	1.25	5.22	16.7	18.8 21.3
8	Vernal		2.78	1.31	1.16	5.25	17.7	18.6 20.7
9	DuPuits		2.68	1.67	1.55	5.89	18.7	19.2 22.7
Ave.								
			2.68	1.36	1.26	5.30	17.6	18.8 21.5
F-Varieties			2.68	1.36	1.26	5.30	17.6	18.8 21.5
L.S.D. (P = .05)			.18	.08	.08	.128	2.85*	1.72 2.96*
C.V. (%)			8.1	7.4	7.7	6.5	.18	.18

Table 93.---NE-28 Alfalfa Variety and Synthetics Trial -- 1960
Location: Smyrna, N.Y.

One Management Only			2 cuts/season		Total yield - Tons/Acre (12%M)			Composition		Total		% D.M.
Random Number	Entry	N.Y. No.	1st cut 6/27	2nd cut 8/4-	Season Total	6/27	% Legume 8/4	Alfalfa Fraction	Total Fraction			6/27
1	N.Y. Syn. A	60-18	4.09	1.36	5.45	54	62	3.05				22.2
2	N.Y. Syn. B	60-19	4.39	1.27	5.66	48	67	2.96				24.6
3	H.S. Narrag.	60-20	4.33	1.44	5.77	56	68	3.40				23.0
4	W.R. Narrag.	60-21	4.37	1.37	5.74	57	71	3.46				23.7
5	W.R. Flemish	60-22	4.48	1.69	6.18	61	81	4.10				23.0
6	Atlantio	60-27	4.16	1.43	5.59	57	70	3.37				23.0
7	Narrag.	60-14	4.27	1.48	5.75	60	72	3.63				22.5
8	Vernal	60-26	4.32	1.39	5.71	55	68	3.32				23.1
9	DuPuits	60-17	4.64	1.90	6.54	69	84	4.80				22.0
	Ave.		4.34	1.48	5.81							23.0
	F-Varieties		2.26*	22.84**	7.59**							2.68*
	L.S.D. (P=.05)		.22	.08	.24							1.0
	C.V. (%)		8.8	9.5	7.2							7.1

Notes: (1) This trial was fall-seeded under rather adverse conditions. Weeds were heavy on summer fallow and considerable quack grass was present. Heavy discing chopped up the weeds, spread the quack roots and pulverized 2-3" of surface soil which was quite dry. The catch of alfalfa is a fairly good indicator of relative establishment ability. This is reflected in the composition estimates. Since there were 12 reps., these are believed pretty valid. The remaining fraction is quack grass; less of this was present in the second harvest.

(2) The Flemish types had considerable advantage under these conditions. The lower viability of seed of all of the experimental lots is evident compared to all the commercial checks except Vernal.

Table 94.--NE-28 Alfalfa Variety and Synthetics Trial--1960
Location: Aurora, New York

Management - 2 cuts/ season

Total Yield * Tons/ acre (12% M)

Random No.	Entry	N.Y. No.	1st cut 6/12	2nd cut 8/-	Season Total	% DM 6/12
1	N.Y. Syn. A		2.18	1.48	3.66	24.2
2	N.Y. Syn. B		2.27	1.44	3.71	25.7
3	H.S. Narrag.		2.41	1.48	3.89	23.3
4	W.R. Narrag.		2.35	1.55	3.90	23.4
5	W.R. Flemish		2.32	1.66	3.98	24.1
6	Atlantic		2.24	1.43	3.67	24.6
7	Narrag.		2.25	1.47	3.72	23.7
8	Vernal		2.16	1.32	3.48	23.6
9	Du Puits		2.24	1.69	3.93	23.4
Notes:						
(1) Weed competi-						
tion in seed-						
ing, severe						
leaf hopper						
attack, and						
tractor damage						
on outside						
plots were						
factors in this						
trial contri-						
bution to						
error.						
Ave.						
F-Varieties						
L.S.D P=.05						
C.V (%)						
1st cut						
2nd cut						
Season						
Total						
% DM						
6/12						
24.2						
25.7						
23.3						
23.4						
24.1						
24.6						
23.7						
23.6						
23.4						
24.0						
4.62**						
.7						
3.7						

Management- 3 cuts

Random No.	Entry	N.Y. No.	1st cut 6/5	2nd cut 7/14	3rd cut 9/20	Season Total	% DM 6/5
1	N.Y. Syn. A		1.46	1.18	1.10	3.74	18.7
2	N.Y. Syn. B		1.42	1.10	1.13	3.64	19.9
3	H.S. Narrag.		1.38	1.22	1.09	3.69	18.8
4	W.R. Narrag.		1.47	1.18	1.03	3.68	19.3
5	W.R. Flemish		1.41	1.11	1.22	3.75	20.1
6	Atlantic		1.40	1.20	1.05	3.65	19.1
7	Narrag.		1.39	1.23	1.08	3.70	18.8
8	Vernal		1.43	1.25	1.14	3.81	19.2
9	Du Puits		1.45	1.37	1.11	3.93	19.4
Ave.							
F-Varieties							
L.S.D (P=.05)							
C.V (%)							
1st cut							
2nd cut							
Season							
Total							
% DM							
6/5							
18.7							
19.9							
18.8							
19.3							
20.1							
19.1							
18.8							
19.2							
19.4							
19.3							
1.92-							
.74-							
.22							
6.9							
4.5							

Table 95.--NE-28 Alfalfa Variety and Synthetics Test - 1960
Location: University Park, Pa. 1961 Data

Mgt. 3 cut - Severe Random Number	Entry	N.Y. No.	Total Yield - Tons/Acre (12% M)				Comp. %		Total Alfalfa Fraction	D.M. %
			1st cut	2nd cut	3rd cut	Season Total	6/2	7/7		
			6/2	7/7	8/28		6/2	7/7		
1	N.Y. Syn. A	60-18	1.57	1.03	1.48	4.08	66	76	3.28	17.1
2	N.Y. Syn. B	60-19	1.60	1.05	1.47	4.12	51	76	3.05	17.6
3	H.S. Narrag.	60-20	1.67	1.00	1.40	4.08	60	75	3.12	17.9
4	W.R. Narrag.	60-21	1.81	.93	1.45	4.20	46	69	2.84	16.8
5	W.R. Flemish	60-22	1.73	1.11	1.56	4.39	71	81	3.67	18.4
6	Atlantic	60-27	1.54	1.01	1.45	4.00	57	74	3.06	17.0
7	Narrag.	60-14	1.74	1.12	1.48	4.34	67	76	3.47	17.8
8	Vernal	60-26	1.72	1.01	1.41	4.14	45	67	2.82	17.8
9	DuPuits	60-17	1.74	1.09	1.55	4.38	71	83	3.67	17.7
	Ave.		1.68	1.04	1.47	4.19				17.6
	F-Varieties		1.82	1.39	1.00	4.21				17.4
	L.S.D. (F=.05)		.17	.10	.10	.20				.9
	C.V. (%)		9.8	12.2	9.1	5.8				6.3

Mgt. 3 cut - Moderate

Mgt. 3 cut - Moderate Random Number	Entry	N.Y. No.	Total Yield - Tons/Acre (12% M)				Comp. %		Total Alfalfa Fraction	D.M. %
			1st cut	2nd cut	3rd cut	Season Total	6/2	7/7		
			6/12	7/25	9/		6/2	7/7		
1	N.Y. Syn. A		2.27	1.01	1.00	4.28	76	86	3.59	18.7
2	N.Y. Syn. B		2.25	1.10	1.07	4.43	74	88	3.70	19.0
3	H.S. Narrag.		2.48	1.07	1.02	4.57	76	91	3.88	19.6
4	W.R. Narrag.		2.36	1.00	.97	4.32	61	84	3.25	19.5
5	W.R. Flemish		2.28	1.22	1.21	4.70	47	92	3.40	20.4
6	Atlantic		2.27	1.02	1.04	4.33	72	91	3.60	19.2
7	Narrag.		2.37	1.14	1.00	4.51	85	90	4.04	19.2
8	Vernal		2.36	1.10	.97	4.43	74	90	3.71	19.0
9	DuPuits		2.17	1.22	1.10	4.49	77	93	3.91	19.1
	Ave.		2.31	1.10	1.04	4.45				19.3
	F-Varieties		1.05	4.71	5.88	1.38				.97
	L.S.D. (F=.05)		.18	.08	.06	.22				1.0
	C.V. (%)		9.2	8.6	7.5	6.3				6.6

Table 96.--NE-28 Alfalfa Variety and Synthetics Test - 1960
Location: Orono, Me.

Total Yield - Tons/Acre (12%M)										
Mgt.: 3 cut, severe		Entry	N.Y. No.	Total Yield - Tons/Acre (12%M)			Ave. D.M.%			
Random Number	1st cut			2nd cut	3rd cut	Season Total	6/7	7/14	8/24	
1		N.Y. Syn. A	60-18	1.21	1.87	1.06	4.13	15.1	17.8	21.7
2		N.Y. Syn. B	60-19	1.37	1.85	1.19	4.41	15.2	19.0	21.7
3		H.S. Narrag.	60-20	1.54	2.06	1.12	4.71	14.3	18.4	21.4
4		W.R. Narrag.	60-21	1.49	1.86	1.14	4.48	14.6	18.9	22.4
5		W.R. Flemish	60-22	1.23	2.14	1.20	4.57	16.0	19.2	21.3
6		Atlantic	60-27	1.38	1.81	1.21	4.40	14.6	18.6	22.2
7		Narrag.	60-14	1.59	1.94	1.14	4.67	14.5	18.8	21.6
8		Vernal	60-26	1.28	2.04	1.09	4.41	14.8	18.7	22.3
9		DuPuits	60-17	1.48	1.99	1.31	4.78	15.5	18.2	22.5
Ave.				1.40	1.95	1.16	4.51	15.0	18.6	21.9
F-Varieties				3.72**	2.48*	2.24*	2.22*	2.09-	1.01-	1.56-
L.S.D. (P=.05)				.14	.14	.10	.26	.8	.8	1.2
C.V. (%)				12.5	9.0	10.7	7.2	6.1	5.5	6.7

Total Yield - Tons/Acre (12%)										
Mgt.: 2 cut, moderate		Entry	N.Y. No.	Total Yield - Tons/Acre (12%)			Ave. D.M.%			
Random Number	1st cut			2nd cut	3rd cut	Season Total	6/12	7/22	8/31	
1		N.Y. Syn. A		1.29	1.96	1.52	4.77	13.3	19.7	22.7
2		N.Y. Syn. B		1.67	1.65	1.59	4.91	13.5	18.7	21.9
3		H.S. Narrag.		1.75	1.55	1.60	4.90	14.6	18.5	21.7
4		W.R. Narrag.		1.51	1.72	1.61	4.84	13.0	18.7	22.2
5		W.R. Flemish		1.29	1.99	1.65	4.93	14.1	19.2	23.8
6		Atlantic		1.53	1.72	1.64	4.90	13.4	18.9	22.7
7		Narrag.		1.52	1.76	1.56	4.78	12.9	18.6	23.2
8		Vernal		1.54	1.72	1.62	4.88	13.9	17.8	22.4
9		DuPuits		1.49	1.63	1.67	4.79	13.3	17.9	24.2
Ave.				1.51	1.74	1.61	4.85	13.6	18.7	22.7
F - Varieties				2.40*	2.11-	1.78-	.13-	.87-	2.05-	2.85*
L.S.D. (P=.05)				.20	.20	.07	.35	1.2	.8	1.0
C.V. (%)				15.9	14.3	5.3	8.7	11.0	5.4	5.3

Table 97.--NE-28 Alfalfa Variety and Synthetics Test -- 1960
Location: Presque Isle, Me.

Mgt. Random Number	Entry	N.Y. No.	Total Yield - T/A (12%)		Ave. D.M.%	
			1st cut	2nd cut	6/27	8/15
1	N.Y. Syn. A	60-18	1.55	2.36	16.5	23.4
2	N.Y. Syn. B	60-19	1.61	2.37	16.9	24.0
3	H.S. Narrag.	60-20	1.79	2.49	16.0	22.6
4	W.R. Narrag.	60-21	1.67	2.41	17.0	22.7
5	W.R. Flemish	60-22	1.63	2.81	16.6	24.4
6	Atlantic	60-27	1.64	2.62	16.2	24.3
7	Narrag.	60-14	1.41	2.37	16.9	23.7
8	Vernal	60-26	1.87	2.63	16.2	23.4
9	DuPuits	60-17	1.72	2.62	16.5	23.3
Average						
F - Varieties			1.65	2.52	16.5	23.6
L.S.D. (P=.05)			2.72*	4.06**	.76	1.99
C.V. (%)			.16	.16	.8	.8
			11.8	7.7	6.1	4.7

Mgt. Random Number	Entry	N.Y. No.	Total Yield - T/A (12%)		Ave. D.M.%	
			1st cut	2nd cut	7/5	8/8
1	N.Y. Syn. A	60-18	2.45	2.26	24.8	22.8
2	N.Y. Syn. B	60-19	2.18	2.22	25.6	23.4
3	H.S. Narrag.	60-20	2.48	2.25	24.3	21.7
4	W.R. Narrag.	60-21	2.22	2.28	25.3	22.9
5	W.R. Flemish	60-22	2.43	2.36	24.5	23.5
6	Atlantic	60-27	2.38	2.24	24.7	22.8
7	Narrag.	60-14	2.53	2.25	25.1	22.5
8	Vernal	60-26	2.54	2.34	25.2	23.2
9	DuPuits	60-17	2.43	2.53	24.9	23.6
Average						
F - Varieties			2.41	2.30	24.9	23.0
L.S.D. (P=.05)			1.60-	2.17-	.59-	1.99-
C.V. (%)			.20	.14	1.1	.8
			10.2	7.1	5.5	4.5

Table 98.--NE-28 Alfalfa Varieties and Synthetics - 1960
Location: Storrs, Conn.

Mgt. 3 cut, severe			Total Yield - T/A (12%M)					Total Alf.		
Random Number	Entry	N.Y. No.	1st cut 6/5	2nd cut 7/18	3rd cut 8/30	Season Total	% Alfalfa			Fraction
							6/5	7/18	8/30	
1	N.Y. Syn. A	60-18	1.51	1.27	.95	3.73	83	84	87	3.15
2	N.Y. Syn. B	60-19	1.19	1.29	.85	3.33	69	79	75	2.48
3	H.S. Narrag.	60-20	1.68	1.41	1.00	4.09	91	90	87	3.67
4	W.R. Narrag.	60-21	1.58	1.35	.95	3.88	87	89	90	3.43
5	W.R. Flemish	60-22	1.40	1.43	1.04	3.87	85	89	93	3.43
6	A atlantic	60-27	1.33	1.24	.92	3.49	77	80	72	2.68
7	Narrag.	60-14	1.71	1.38	1.01	4.10	92	92	92	3.77
8	Vernal	60-26	1.48	1.23	.91	3.62	85	85	79	3.02
9	DuPuits	60-17	1.68	1.49	1.06	4.22	91	92	95	3.91

Mgt. 3 cut, moderate Number	Entry	N.Y. No.	1st cut		2nd cut		3rd cut		Season Total	% Alfalfa			Total Alf. Fraction
			6/14	7/27	7/27	9/8	9/8	6/14		7/27	9/8		
1	N.Y. Syn. A	60-18	1.97	1.21	.85	4.03	87	82	82	3.40			
2	N.Y. Syn. B	60-19	1.96	1.13	.82	3.90	77	68	71	2.86			
3	H.S. Narrag.	60-20	2.11	1.24	.84	4.18	91	83	79	3.61			
4	W.R. Narrag.	60-21	2.12	1.24	.89	4.26	83	81	81	3.48			
5	W.R. Flemish	60-22	1.94	1.33	.95	4.22	86	82	84	3.84			
6	Atlantic	60-27	2.06	1.18	.88	4.12	90	87	80	3.58			
7	Narrag.	60-14	2.15	1.28	.93	4.36	92	87	86	3.89			
8	Vernal	60-26	2.12	1.15	.77	4.05	85	77	69	3.33			
9	DuPuits	60-17	1.94	1.44	.95	4.33	84	79	81	3.54			
Average													
F - Varieties			2.04	1.25	.88	4.16							
L.S.D. (P=.05)			.93-	1.60-	2.36*	.69-							
C.V. (%)			.18	.15	.08	.36							
			10.9	15.0	11.3	10.7							

Table 99.--1958 NE-28 Alfalfa Polycross Progeny Test II

Random Number	Entry	Location: Storrs, Conn.				1961 Data			
		Total Yield T/A (12%M)				Alfalfa			
		Cut 1 6/15	Cut 2 8/1	Season Yield		6/15	8/1		
17	C - 53	2.06	1.39	3.45		62	77		
18	C - 91	2.10	1.61	3.71		67	84		
19	C - 187	2.11	1.43	3.55		64	83		
20	C - 199	2.36	1.41	3.77		66	78		
21	C - 221	2.06	1.26	3.32		46	71		
22	NY 49-6	-	-	-		-	-		
23	NY 49-9	2.22	1.41	3.63		58	83		
24	NY 49-14	1.94	1.47	3.41		55	77		
25	NY 49-18	1.84	1.46	3.30		55	77		
26	NY 49-19	1.99	1.45	3.43		59	82		
27	NY 49-57	1.97	1.35	3.32		42	73		
28	NY 49-75	-	-	-		-	-		
29	Pa. 4	2.11	1.47	3.59		67	87		
13	Atlantic	2.14	1.51	3.65		51	80		
14	DuPuits	1.61	.76	2.37		19	42		
15	Narragansett	2.07	1.44	3.52		60	68		
16	Vernal	1.85	1.41	3.26		55	68		
	Average	2.03	1.39	3.42					
	F - Varieties	2.72**	9.05**	6.71**					
	L.S.D. (F.05)	.22	.12	.26					
	C.V. (%)	11.8	10.2	8.3					

Table 100.-1953 NE-28 Alfalfa Polycross Progeny Test III
Location: Storrs, Conn. 1961 Data

Random Number	Entry	Total Yield T/A (12% M)			Alfalfa (% Stand)			Total Alfalfa Fraction
		Cut 1 6/6	Cut 2 8/1	Season Yield	6/6	8/1	9/4	
30	57 - Pa. (-11-5)	1.91	1.02	2.93	39	52	18	1.28
31	57 - Pa. (-7-15)	1.76	1.11	2.87	42	27	17	1.04
32	57 - Pa. (-7-7)	2.01	1.09	3.10	59	45	15	1.68
33	57 - Pa. (-7-9)	2.25	1.22	3.47	52	55	30	1.84
34	57 - Pa. (-7-16)	-	-	-	-	-	-	-
35	57 - Pa. (-7-12)	1.97	1.14	3.11	43	38	22	1.28
13	Atlantic	2.08	1.44	3.52	66	69	61	2.37
14	DuFuits	1.89	.88	2.77	39	40	8	1.09
15	Narragansett	2.11	1.46	3.57	60	70	51	2.29
16	Vernal	2.00	1.35	3.36	58	76	61	2.19

Average

2.00 1.19 3.19

F - Varieties

1.44 - 11.49** 4.61**

L.S.D. (P = .05)

.23 .12 .28

C.V.%

13.1 10.9 9.8

Table 101.--NE-28 Alfalfa Varieties and Synthetics - 1958

Location: Storrs, Conn.		1961 Data															
Number	Entry	Total Yield T/A (12% M)		% Alfalfa		% Average Stand											
		Cut 1	Cut 2	Season	6/16	8/1	9/4	6/16	8/1	9/4	6/16	8/1	9/4	6/16	8/1	9/4	Total Alfalfa Fraction
36	Indiana Syn. F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	N.Y. A	2.00	1.41	3.41	75	64	74	75	64	74	75	64	74	75	64	74	2.40
38	N.Y. B	1.98	1.39	3.37	65	73	64	65	73	64	65	73	64	65	73	64	2.30
39	N.Y. C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	Syn. A-242	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	Buffalo	2.20	1.26	3.45	57	74	37	57	74	37	57	74	37	57	74	37	2.19
42	Williamsburg	2.05	1.07	3.13	47	73	28	47	73	28	47	73	28	47	73	28	1.74
43	Lahontin	1.83	1.19	3.02	35	55	23	35	55	23	35	55	23	35	55	23	1.29
44	Ranger	1.94	1.27	3.21	57	74	50	57	74	50	57	74	50	57	74	50	2.05
13	Atlantic	2.14	1.23	3.37	51	76	51	51	76	51	51	76	51	51	76	51	2.03
14	DuPuits	1.88	1.54	2.42	10	52	6	10	52	6	10	52	6	10	52	6	.47
15	Narragansett	1.93	1.76	2.69	37	59	28	37	59	28	37	59	28	37	59	28	1.16
16	Vernal	1.92	1.34	3.26	71	78	58	71	78	58	71	78	58	71	78	58	2.40
49	Rambler	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	NK-501	1.72	.67	2.40	19	56	10	19	56	10	19	56	10	19	56	10	.70
51	Alfa	1.68	.38	2.06	6	39	5	6	39	5	6	39	5	6	39	5	.25
52	Moapa	1.56	.87	2.43	7	2	4	7	2	4	7	2	4	7	2	4	.13
Average		1.91	1.03	2.94													
F - Varieties		2.40*	20.44**	10.36**													
L.S.D. (P = .05)		.23	.16	.30													
C.V. %		13.6	16.6	11.3													

Wilt observed on Atlantic, Williamsburg, DuPuits, Narragansett, NK-501, Alfa

Table 102.--1960 NE-28 Alfalfa Varieties and Synthetics Trial
Location: Kingston, R.I.

Management: 2 cuts, Severe

Random Number	Entry	N.Y. No.	1st cut 6/13	2nd cut 7/18	3rd cut 8/28	Total Season	Composition % Alfalfa			% D.M. 6/13	Total Alfalfa Fraction
							6/13	7/18	8/28		
1	N.Y. Syn. A	60-18	1.09	.34	.24	1.68	85	89	85	24.4	1.43
2	N.Y. Syn. B	60-19	1.14	.43	.26	1.83	85	89	85	24.2	1.57
3	H.S. Narrag.	60-20	1.31	.44	.23	1.98	90	92	90	23.6	1.79
4	W.R. Narrag.	60-21	1.60	.90	.25	2.75	87	89	86	23.9	2.41
5	W.R. Flemish	60-22	1.37	.65	.34	2.36	90	95	89	24.3	2.12
6	Atlantic	60-27	.96	.35	.22	1.53	83	89	82	24.2	1.29
7	Narrag.	60-14	1.18	.43	.23	1.84	87	90	85	24.4	1.61
8	Vernal	60-26	1.25	.45	.23	1.93	85	88	84	24.3	1.65
9	DuPuits	60-17	1.29	.52	.34	2.15	91	96	90	23.7	1.98

Average 1.24 .50 .26 2.01 24.1
F - Varieties 3.18** 5.72** 1.39- 3.47**
L.S.D. (P=.05) .20 .14 .08 .138
C.V. (%) 20.3 35.5 37.1 24.2

Random Number	Entry	N.Y. No.	1st cut 6/13	2nd cut 7/31	3rd cut 9/11	Total Season	Composition % Alfalfa			% D.M. 6/13	Total Alfalfa Fraction
							6/13	7/31	9/11		
1	N.Y. Syn. A	60-18	1.11	.52	.37	2.01	87	89	92	24.9	1.77
2	N.Y. Syn. B	60-19	1.06	.48	.30	1.84	85	90	91	26.3	1.61
3	H.S. Narrag.	60-20	1.32	.75	.45	2.51	90	92	97	23.3	2.31
4	W.R. Narrag.	60-21	1.64	1.40	.44	3.48	89	89	94	22.3	3.12
5	W.R. Flemish	60-22	1.12	.61	.29	2.01	88	91	97	24.7	1.82
6	Atlantic	60-27	1.13	.50	.41	2.04	86	90	92	24.4	1.80
7	Narrag.	60-14	1.16	.56	.80	2.52	86	90	97	24.6	2.28
8	Vernal	60-26	1.07	.51	.29	1.87	88	89	92	23.3	1.66
9	DuPuits	60-17	1.15	.72	.41	2.28	90	93	100	23.7	2.11

Average 1.20 .67 .42 2.29 24.2
F - Varieties 3.91** 1.78- 4.66**
L.S.D. (P=.05) .18 .14 .29 .148
C.V. (%) 18.8 25.0 86.2 25.5

Table 103.--NE-28 Alfalfa Varieties and Synthetics Test 1960
Location: College Park, Md.

Mgt. 4 cut, severe		Total Yield - T/A (12%M)								% D.M.
Random Number	Entry	N.Y. No.	1st cut 5/19	2nd cut 6/23	3rd cut 7/28	4th cut 9/1	Season Total		% D.M. 5/19	
1	N.Y. Syn. A	60-18	2.44	1.55	.88	.43	5.31		15.4	
2	N.Y. Syn. B	60-19	2.40	1.46	.84	.46	5.15		15.5	
3	H.S. Narrag.	60-20	2.47	1.56	.87	.46	5.36		15.1	
4	W.R. Narrag.	60-21	2.37	1.51	.85	.45	5.17		15.9	
5	W.R. Flemish	60-22	2.74	1.71	.96	.52	5.93		16.6	
6	Atlantic	60-27	2.53	1.45	.88	.52	5.38		15.0	
7	Narrag.	60-14	2.51	1.56	.91	.46	5.43		15.5	
8	Vernal	60-26	2.58	1.45	.81	.47	5.32		16.3	
9	DuPuits	60-17	2.73	1.74	.95	.46	5.89		15.3	
	Average		2.53	1.55	.88	.47	5.44		15.6	
	F - Varieties		3.34**	4.88**	1.48-	1.89-	5.63**		1.6/-	
	L.S.D. (P=.05)		.14	.10	.08	.05	.24		.9	
	C.V. (%)		7.0	7.7	11.4	11.9	5.4		6.8	

Mgt. 3 cut, moderate		Total Yield - T/A (12%M)								% D.M.
Random Number	Entry	N.Y. No.	1st cut 6/2	2nd cut 7/18	3rd cut 8/31	Season Total		% D.M. 6/2	% D.M. 7/18	
1	N.Y. Syn. A	60-18	2.87	1.63	.64	5.14	22.4	25.4	18.8	
2	N.Y. Syn. B	60-19	2.56	1.66	.59	4.81	22.4	27.2	18.2	
3	H.S. Narrag.	60-20	2.93	1.69	.60	5.22	23.5	25.9	17.5	
4	W.R. Narrag.	60-21	2.92	1.72	.53	5.17	22.8	26.7	19.3	
5	W.R. Flemish	60-22	2.77	1.95	.66	5.39	23.3	27.2	17.8	
6	Atlantic	60-27	2.59	1.61	.66	4.85	22.6	27.0	18.2	
7	Narrag.	60-14	2.76	1.69	.59	5.05	21.7	25.7	18.1	
8	Vernal	60-26	2.78	1.51	.64	4.92	22.6	25.6	18.3	
9	DuPuits	60-17	2.67	1.84	.67	5.19	23.0	26.8	19.0	
	Average		2.76	1.70	.62	5.08	22.7	26.4	18.4	
	F - Varieties		1.41/-	7.71**	1.99-	2.15*	1.70-	1.96-	1.26-	
	L.S.D. (P=.05)		.23	.09	.07	.26	1.3	1.0	1.0	
	C.V. (%)		10.1	6.8	14.1	6.2	6.8	4.8	6.9	

Table 104.--NE-28 Alfalfa Variety and Synthetics Trial - 1960

Location: Morgantown, West Va.
1961 Data

Mgt.: Moderate		Total Yield - Tons/Acre (12%M)				
Random Number	Entry	N.Y. No.	1st cut 6/13	2nd cut 7/25	3rd cut 9/1	Season Total
1	N.Y. Syn. A	60-18	1.64	1.55	.96	4.15
2	N.Y. Syn. B	60-19	1.84	1.44	.93	4.21
3	H.S. Narrag.	60-20	1.75	1.52	.85	4.12
4	W.R. Narrag.	60-21	1.78	1.53	.80	4.11
5	W.R. Flemish	60-22	1.71	1.72	1.10	4.54
6	Atlantic	60-27	1.69	1.49	.81	4.00
7	Narrag.	60-14	1.75	1.46	.96	4.17
8	Vernal	60-26	1.78	1.43	.82	4.03
9	DuPuits	60-17	1.69	1.69	.99	4.37
Average			1.74	1.54	.91	4.91
F - Varieties						
L.S.D. (F=.05)						
C.V. (%)						

Mgt.: Severe		Total Yield - Tons/Acre (12%M)				
Random No.	Entry	N.Y. No.	1st cut 6/7	2nd cut 7/18	3rd cut 9/5	Season Total
1	N.Y. Syn. A	60-18	1.99	1.64	1.29	4.92
2	N.Y. Syn. B	60-19	1.79	1.64	1.29	4.72
3	H.S. Narrag.	60-20	2.02	1.51	1.09	4.62
4	W.R. Narrag.	60-21	2.20	1.55	1.11	4.86
5	W.R. Flemish	60-22	1.77	1.67	1.27	4.71
6	Atlantic	60-27	1.98	1.44	1.07	4.49
7	Narrag.	60-14	1.96	1.56	1.16	4.68
8	Vernal	60-26	2.03	1.47	1.05	4.55
9	DuPuits	60-17	1.81	1.71	1.25	4.77
Average			1.95	1.58	1.18	4.70
F - Varieties						
L.S.D. (F=.05)						
C.V. (%)						

